

THE CHIRONIAN.

VOL. XXVII

APRIL, 1911.

No. 10.

SOME ORIGINAL METHODS FOR SIMPLIFIED CLINICAL MILK ANALYSIS.*

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When looking at milk from the standpoint of a food for infants, there are three elements which we must consider of importance—Fat, Proteids and Sugar. The strictly scientific examination of milk for the determination of the percentages of these elements in a sample is something out of the realm of the general practitioner. It, therefore, occurred to me that if some simple clinical methods for the determination of these elements could be devised, the subject would then be brought from out the sphere of the specialist into the realm of the general practitioner and would interest us all. What methods could be used?

After some thought I determined to use for the first series of experiments, of which this paper is a report, the method devised by Holt for the fats, and that of Bogg's for the proteids. I have heard several physicians say that these methods are of no use, and have seen the same statements in print, but have never heard or seen any definite data given, so decided to prove for myself how bad these methods were, or to what service they could be put. These two methods are extremely simple, and follow:

1st. *The Holt method for fats.* Into a Holt tube put 10 c.c. of milk and allow to stand aside for twenty-four hours. At the end of that time the cream will have risen, and as the length of the scale is divided into one hundred equal parts the percentage may be read directly. According to the directions published, the fat in the sample examined is to the cream as three is to five. Example. If we have five per cent. of cream then we have three per cent. of fat.¹

*Read before the Homœopathic Medical Society of the County of New York, February 9, 1911.

¹It should be distinctly understood that the only claims made by Dr. Holt for this method, are approximate results when human milk is examined.

2d. *The method of Bogg's for proteids.* Human milk is diluted with water so that each ten parts of the dilution contains one part of milk. This diluted milk is poured into the ordinary Esbach tube (used for estimating the percentage of albumin in urine), up to the mark U, and Bogg's reagent² is added to the mark R. After mixing the contents well the tube is set aside for twenty-four hours, and at the end of that time the percentage of proteids present is read directly from the calibrations. When cow's milk is tested the dilution must be twice that used for human milk and the reading then multiplied by two.

The results of these experiments are given in condensed form in the following tables and diagram. With regard to the tables. The first column (1) shows the kind of milk used, and it will be seen that all of the milks, down to the double lines, were either whole or tops milks; those below the double lines were made up of mixtures; some top milk and water, others bottom milk³ and water, others top milk, bottom milk and water, etc. In other words, the milks below the double lines represent formulæ. The milk used in the last six top milks given and in the last three formulæ was pasteurized. These milks are indicated in column (1) by a large outline letter, P. It was seen after examining these nine samples, that the reactions for them were different than for non-pasteurized milk. The further examination of pasteurized milk was, therefore, discontinued and the rest of the experiments conducted with non-pasteurized milk. No conclusions could be drawn in the case of these nine samples, but the results have been given, as they may be of interest or aid to others working along these lines.

The next column (2) shows the specific gravities. At the beginning of these experiments it was my intention to attempt to draw conclusions from the specific gravities of the samples. After taking the specific gravities given in the tables, however, the conclusion arrived at was that this factor was of no clinical value. The principal reason for this conclusion was, that when the apparatus

²Boggs' reagent:

Phosphotungstic hydrochloric acid, 25 c.c.

Concentrated hydrochloric acid, 25 c.c.

Distilled water, q. s., 250 c.c.

³Partially or completely skimmed milk.

which comes with the Holt set was used, a variation of from four to ten points could be obtained in the specific gravity of every

MILK	SPECIFIC GRAVITY	PER CENT CREAM	PER CENT FAT		FAT	% PROTIED	
			3-5	BABCOCK	2-5	BOGGS	KJELDAHL
1	2	3	4	5	6	7	8
WHOLE	1.032	10.0	6.0	4.4	4.0	3.5	3.4545
"	1.031	8.0	4.8	4.0	3.2	3.8	3.5039
20%	1.032	14.0	8.4	5.0	5.6	3.6	3.4545
16"	1.031	18.0	10.8	6.3	7.2	4.0	3.3887
10"	1.029	19.0	11.4	8.2	7.6	3.6	3.29
8"	1.027	21.0	12.6	10.4	8.4	3.8	3.1913
6"	1.024	36.0	21.6	12.6	14.4	3.8	2.9181
4"	1.019	49.0	29.4	16.5	19.6	3.4	2.7965
2"	1.017	53.0	31.8	21.5	21.2	5.0	2.0727
10"		26.0	15.6	8.7	10.4	4.0	3.3558
8"		33.0	19.8	11.2	13.2	4.0	3.2078
6"		44.0	26.4	13.8	17.6	4.5	3.0926
WHOLE	1.032	6.0	3.6	4.1	2.4		
8"	1.029	20.0	12.0	8.6	8.0		
6"	1.029	23.0	13.2	9.7	9.2		
6"	1.027	42.0	25.2	11.5	16.8		
4"	1.027	63.0	37.8	15.5	25.2		
2"	1.025	81.0	48.6	18.0	32.4		
	1.034	3.0	1.8	1.6		3.0	3.7835
	1.034	3.0	1.8	2.0		4.6	3.2245
	1.033	3.5	2.1	2.1		3.5	3.4874
	1.033	4.0	2.4	2.2		4.0	3.29
	1.034	4.0	2.4	2.4		4.5	3.8822
	1.033	6.0	3.6	3.0		3.0	3.5203
	1.028	8.0	4.8	3.8		3.4	2.4675
P	1.034	6.5	3.9	3.0		4.0	3.4545
	1.032	8.0	4.8	3.4		4.3	3.619
	1.032	9.0	5.4	4.4		3.3	3.4545

sample, according to the manner of inserting the lactometer. With

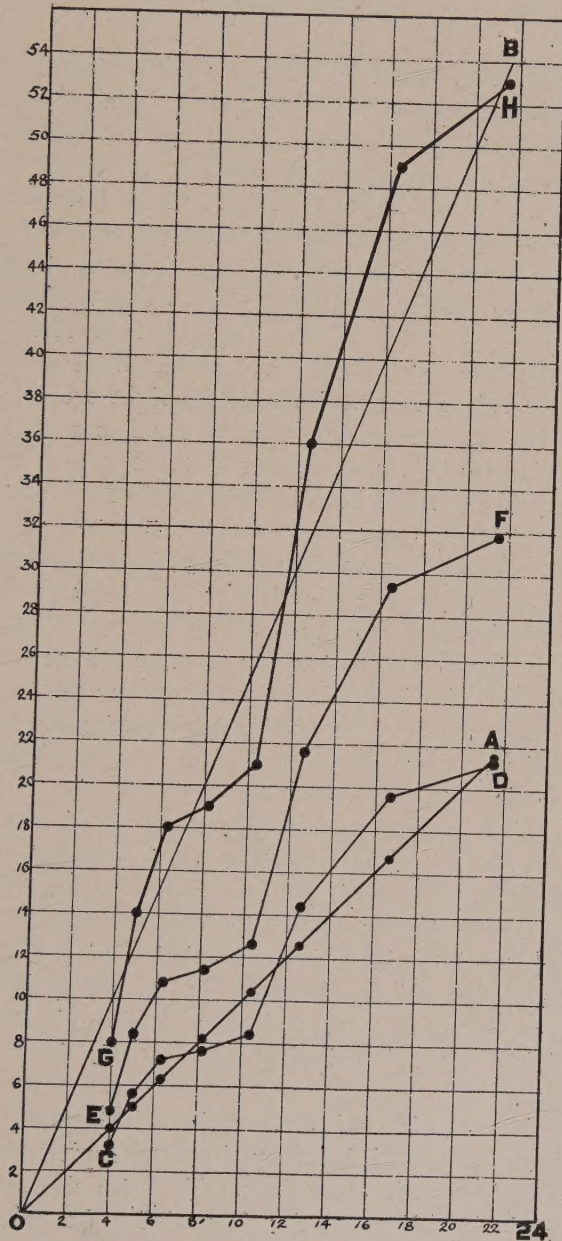
such an element of error the specific gravity cannot be of practical value. It was, therefore, discarded and will not be used in future experiments. The next column (3) shows the percentage of cream in each case with the Holt tube. In column (4) we have the percentage of fat obtained, according to the published directions, by assuming that the percentage of fat is to the percentage of cream as three is to five. In column (5) is given the actual percentage of fat in each case, as determined by the Babcock method. Leaving the pasteurized milks out of our considerations, it will be noted of all the milks above the double lines that the amount of fat is over four per cent., and though this amount of fat varies with the cream, the relationship is *not* as three is to five, but approaches more closely the ratio two to five. On the other hand, considering the milks below the double lines, that is formulæ, with a percentage of fat, such as we might be expected to prescribe, the fat does vary with the cream, roughly, as three is to five.

In order that the data pertaining to the fats in top milks might be more clearly interpreted, it was decided to make a graphic representation of the readings obtained. The following illustration represents diagrammatically the discrepancy existing between the ratio three to five, as stated in the Holt directions, and the ratio two to five, as obtained from the above table of analyses.

It also shows the amount of error in the relation of the assumed ratios two to five and three to five to the actual analysis.

The diagram was constructed as follows: An ordinary piece of engineer's plotting paper was used for this purpose, and the milks beginning with the second whole milk in the tables going down to and including the first two ounce top milk were used as the samples whose readings should be plotted. The reason for taking these particular specimens was that in making them up eight bottles of milk were thoroughly mixed in a large container, and the bottles then refilled with the mixed milk. After allowing them to stand for six hours, the top milks for examination were taken, one from each bottle, so that we were in reality examining top milks of the same whole milk.

It was decided to let the distance of one square from O in either a horizontal or perpendicular direction be equal to two per cent. of fat. Such being the case, each fat reading, of necessity, came somewhere on the straight line OA. Each one of these fat



OA = Fat analysis (Babcock).

CD = Fat estimation at two to five (from above analysis).

GH = Cream percentage by Holt tube.

OB = Cream percentage if actual fat were to cream as two is to five.

EF = Fat estimated at three to five (Holt method).

readings (Babcock), will be found on this line OA at its proper location, indicated by a circle whose center is the location of the reading. As the conclusion to be arrived at was the relationship existing between the percentage of fat and of cream, the cream readings were located along the line GH, that is, from left to right, a distance equal to the percentage of fat in each case, which had been determined by the Babcock method, and from below upward, a distance equal to the percentage of cream present. If the relation existing between the fat and cream readings is as three is to five, then, if a new line such as EF be constructed along which each reading is located at a point from left to right equal to the percentage of fat, and from below upward equal to a distance bearing the relation to the cream reading as three is to five, it should coincide with OA. It will be seen that this is far from being the case.

The points G and H were then connected with a straight line,⁴ and it was found that the relationship existing between the distance from the base line O 24 to any point on OA was to the distance from the base line to a corresponding point on this new line almost as two is to five. The line OB was, therefore, constructed, in which this was actually the case. It will be seen that though the line GH (cream readings) does not coincide with OB, the relationship is quite close.

The new line, CD, was, therefore, constructed, locating each reading at a point from left to right, equal to the percentage of fat, and from below upward, equal to a distance bearing the relation to the cream reading of two to five. This line, when compared with OA, shows how close the relation of two to five is to the correct relation existing between the fat and cream readings. Although not absolutely accurate, it may be said to be close enough to be of clinical value. The individual results are shown in column (6).

The proteids next demand our attention. The tests for them, as stated before, were carried out by the Bogg's method, shown in column (7). In each instance these milks were also tested by the Kjeldahl method (column 8) for determining the actual percent-

⁴This line is not shown on the diagram. It was the intermediate step leading to the construction of OB.

age of proteids present. A series of twelve milks was examined, using for six of them the Esbach tube reading to seven per cent., and for the other six the Esbach tube reading to twelve per cent. Of these tests the ones with the twelve per cent. tube were more accurate. Therefore, the seven per cent. tube was discarded, and for the remaining tests the twelve per cent. tube was used. The six readings with the seven per cent. tube are indicated in the column (7), headed Bogg's, by a heavy black line on either side of the reading.

The results of twenty-two tests for proteids are given, but from them, at this moment, no practical conclusion can be drawn because of the great and irregular variations between the readings by Bogg's and Kjeldahl. However, some ideas were gained pointing toward probable reasons for these variations, and we hope, at some future date, to be able to present some modifications of the present technic which will bring this test to a point of practical usefulness.

In testing for the percentage of sugar present, it has been my custom to use the Pavy modification of the Fehling test, and although I had wished to think differently, I was forced to conclude that the results obtained were invariably too low, for in looking over the reports made by me on specimens of breast milk examined, it was seen that the amount of sugar found seldom reached five per cent. We all know that the percentage of sugar in breast milk, as stated by various competent observers, ranges from six to seven per cent. As the amount of sugar found by me was almost always below five per cent., I inferred that one of three things was the cause. Either my technic was incorrect, or the milks examined were all actually low in sugar, or the method was not an accurate one.

To find out if the method was at fault I made up solutions of milk sugar and water of known percentages, and examined these by the Pavy method to determine how much sugar was present. The percentage found was always less than was known to be there, the average error being thirty-seven per cent. I then turned to the breast milks previously examined by me, and found in them the average percentage of sugar reported to be present was four and sixteen one-hundredths per cent. If the error in the Pavy method is a reading thirty-seven per cent. less than it should be,

the readings may be easily increased by the addition of this amount of error. I, therefore, added to the average amount of four and sixteen hundredth per cent. of sugar found in these breast milks, the estimated error, and found that the average per cent. of sugar thus obtained was six and seventy-six hundredths per cent. As the average per cent. of sugar in normal breast milk is between six and seven per cent., and as the average in the breast milks examined was six and seventy-six hundredths per cent. when increased by the estimated error of thirty-seven per cent., and as the average in these milks in other respects was about normal, it is safe to say that there was an error, and that the original readings were probably thirty-seven per cent. less than they should have been. This will be absolutely proven one way or the other at a latter date, but up to the time of the reading of this paper it has been impossible to give the time required to conduct the necessary experiments.

The comparatively limited number of analyses preclude the drawing of scientifically accurate deductions, but enough work has been done to form a basis for very close clinical approximation in routine practice.

The conclusions to be drawn are:

1st. With regard to the fat. If we are dealing with a milk running up to four per cent. of fat, and make the estimation with the Holt tube, the percentage of fat will be to the cream approximately as three is to five. If, on the other hand, the percentage of fat in the specimen examined is higher than four per cent. the approximate ratio will be as two is to five.

2d. The proteids. Estimation by the Bogg's method is not to be relied upon because of the various elements of error which enter.

3d. The sugar. If the Fehling method or one of its modifications is used, the resulting percentage obtained is always too low, the probable error being about thirty-seven per cent.

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**IF MEDICAL COLLEGES WERE UNDER STATE SUPERVISION, WOULD THE
MEDICAL PROFESSION BE MORE UNIFORMLY AND EFFICIENTLY
EDUCATED AND TRAINED THAN BY THE PRESENT SYSTEM***

By Royal S. Copeland, A. M., M. D.,

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When one considers the really ideal condition as regards medical college supervision, naturally he thinks of the superior advantages of federal control, with uniform standards of admission, graduation and licensure. Under present political conditions and constitutional limitations, this must remain a dream, certainly it is impossible at present. Perhaps, anyhow, such a plan would be unwise. Of necessity, low standards will prevail in pioneer and undesirable sections of the country, and a federal law, in striking an average for the country at large, would, therefore, raise a much lower standard than will obtain in many of the individual states. State control, therefore, is the present logical solution of the problem.

Frequently the question is asked: Why should there be any governmental control of the professional schools? Theoretically, state supervision means honest, disinterested, impartial, unapproachable administration. In the matter of medical colleges, undoubtedly, private control results in abuses and a lower standard than should be tolerated at the present time. Certainly private control must mean lack of uniformity. In a given state, for instance, with private control, there will, of necessity, be as many standards of admission and graduation as there are private corporations. With state control, on the contrary, while the standard may be no higher than the average of the private institutions in another state, at least there is uniformity in the administration of the colleges. Certainly there is uniformity as to the minimum requirements, with perfect liberty of diverse views as to the maximum.

*During the week beginning February 27th, a number of organizations, interested in medical education, met in Chicago. Among these may be mentioned the American Association of Medical Colleges and the National Confederation of State Medical and Licensing Boards. In the latter organization the discussion was largely on the question of State control of medicine. Papers were presented by Abraham Flexner and the deans of many colleges, including all the schools of practice. This particular paper was one of the series.

State control has all the benefits of federal control, provided there exist reciprocal relations between the states. This reciprocal relationship, so desirable to our profession, would be much easier to realize were there uniformity in the college curricula, certainly as regards the essentials of medical education. The old French motto, "Whatever you are, be that," is well applied to the medical schools. Some schools are essentially scientific; they are really research institutions. Others are emphatically clinical. Comparisons are odious, but for the sake of illustration, let me compare two schools, with both of which I have had most intimate association. I refer to the University of Michigan, Homœopathic Department, and the New York Homœopathic Medical College and Flower Hospital.

Of necessity, these two institutions have different ideals, different features, and employ different methods of instruction. They will turn out different products, graduates prepared for opposite environments. The Ann Arbor graduate will go to the country town or to the small city. He is fitted in theory for this choice, and, as a matter of fact, he actually selects it for his field. The New York graduate is a product of the hurly-burly city life; emergencies are the daily experience of his atmosphere, and, naturally, he selects the city as the place for his practice.

Opposite as are the ideals and opposing as are the problems of the future practice of the graduates, there are certain educational fundamentals, common to both institutions and to all similar institutions. The same sort of frame work is used everywhere; upon this is placed varying ornamentation. The frame work is essential, and the finish non-essential. It should be easy, therefore, to standardize these two, and all other similar colleges, so that a student may pass from one to another at any period without loss of time or convenience.

While the relations between these two particular institutions are delightful, it is an unfortunate fact, speaking now of colleges in general, that there is not such an *esprit de corps* as to make possible an interchange of ideas first, and then an actual standardization of entrance, curriculum, and graduation. Here is the reason, then, why the state should step in and establish certain requisites, and, by the exercise of its police power, actually supervise and control the institutions within its borders. This must tend, of course, to a more uniform and efficient education and training than is possible

by any hit or miss method, or by leaving details to the individual colleges.

Unfortunately, medical colleges are too often born of individual ambition or individual revenge. History is filled with records of medical college groundings, even of institutions which have grown to honorable positions, the beginnings of which have been shameful and unworthy of commemoration. The early years of such colleges, and, in some instances, all the years, have been marked by low standards of admission, small attention to attendance, and almost no requirements for graduation. No wonder medical education has been criticised. Without at this time considering the merits or demerits of the Flexner report, it must be admitted that our institutions have not all been free of shameful standards and unworthy acts. State supervision establishes uniformity certainly. It does not necessarily establish perfect efficiency. Of necessity, it can fix but the minimum standard. However, it is possible to have this high enough to increase efficiency and thorough training.

How are standards to be established? Where is the authority for this or that level? Immediately we come upon debatable ground. It must be admitted that state supervision carries with it the possibility of evils. Bureaucracy, politics, narrow mindedness, sectarian bias—all these criticisms have been raised against state supervision. "Class legislation," "Doctor's trust," "The poor boy plea," are all cries raised against it. The great argument in favor of state supervision, from the standpoint of the public, is the protection of the people against charlatans, quacks, and poorly educated practitioners. These arguments are too well known to require any recital. It is too bad that any doubt remains in the public mind of the value of such legislation. The vastly improved medical conditions in the two states of Illinois and Michigan ought to be sufficient proof if more evidence were needed.

Legislation providing for state supervision should include:

I. The conditions under which medical college charters may issue. The law itself should fix the minimum as regards real and personal possessions and the amount of endowment. No college should be permitted to open its doors until such reasonable requirements are fully met.

II. Preliminary education. Of necessity, in most states, this cannot exceed the level of the average state high school standard.

Except under occasional and favorable conditions state legislators will not raise a standard which will exclude from the privileges of education graduates of the state public school system. In some states where state universities exist, the argument may be used that professional education is the natural successor of academic education. Ordinarily, however, the legislator will say that the privileges of the professional schools ought not to be denied the graduates of the public school system.

III. Professional education. This must include:

(a) The right and duty of inspection of the colleges, together with provision for enforcement of the reasonable requirements of the official body designated to take charge of this work.

(b) An examination to determine the academic fitness of all applicants for matriculation in the professional school.

(c) An examination, not alone of theoretical knowledge of the applicant to practice medicine, but practical tests to determine his manual dexterity, instrumental precision and laboratory training.

IV. State supervision should include the right to abrogate for due cause the license to practice medicine. In my opinion, I wish to say in passing, the division of the medical fee should be included among the causes for abrogation of license. This is a practice born of the devil and fostered in the infernal regions. Whenever the subject of fee division is mentioned in my presence, I can smell brimstone. It has unsexed women, robbed many a man of his appendix and threatens to commercialize a large proportion of our profession. Such a practice is immoral, unworthy of our calling, and, for ethical reasons alone, should be annihilated. It is to be feared, however, it is a growing custom, and, if so, it must be held by the strong arm of the law. I may be alone in my view, but to my mind any man, donor or donee, who indulges such a practice is entitled, not only to the ostracism of decent people, but to actual removal from the profession. As compared to some of the causes for disbarment from the legal profession this practice so far exceeds them in gravity that they seem trifling and insignificant.

The natural corollary of state supervision is reciprocity between the states. To this end there should be uniform laws and requirements. In a multitude of councilors is great wisdom. Such gatherings as we have here to-day and the other bodies meeting here this week must tend to the promotion of the reciprocal idea. The chief

dispute involved and the chief obstacle against universal reciprocity is the so-called minimum standard, of course. I recognize that no matter what stand one may take on the minimum standard, he is bound to meet with opposition. What I shall say on this subject is my own opinion. I believe that in fixing the standard of preliminary education, the maximum for the majority of colleges should be no higher than the requirements for admission to the university academic department, for instance, of such recognized literary institutions as Yale, Harvard, Princeton, Columbia, and Brown in the east, and Michigan, Chicago, Minnesota, Illinois, and Leland Stanford in the west. Flexner's ideal cannot and will not be universally adopted. The conclusions of these gentlemen are wrong, in my mind, because the major premise is false. Medical institutions are undergraduate institutions. They are training men, not for research work, not for medical writing, not for scientific investigation—they are training men for the cure of the sick, the alleviation of human suffering, and the prevention of concrete, not abstract disease. In the language of Sir Dyce Duckworth, "The main object of the physician is to be a clever medical artist, not an abstract scientist."

Mark you, I do not object to the high standard set by many most excellent institutions. I recognize the necessity of medical research and the training of abstract scientists, but let us not forget the field of general practice and the call for workers in this field. It is heroic, and, to the unthinking, convincing, to demand "broad" and "liberal" education, but every honest and informed observer must admit that many men of this type of education are not practical and successful in actual contact with disease. Continue the education of a young man past the plastic period of his life, and he must be the possessor of an unusual amount of common sense to overcome the handicap of "scientific methods" in dealing with disease, which, unfortunately, has an unhappy faculty of asserting itself now and then in most unscientific manner. The pioneer who has learned his woodcraft from actual contact with nature, is, of necessity, master of the situation when coping with the novice who has acquired his knowledge in the library. Admitting, then, that the botanist must classify the plants, the expert forester study the best conditions for growth, the chemist solve the problems of fertilization, we still need the hardy woodsman who will furnish the fuel, cut the roads, battle with the wild beast and clear the fields. Not to carry the

figure or the argument too far, I will leave it and join the most ardent advocate of high standards in demanding a decent observance of rules and regulations that make for a well rounded and efficient education. Opposed, as I am, to a standard which can be reached by the specialist alone, I do stand for such reasonable supervision as now obtains in New York, Michigan and Illinois, and a few other states of equal standing.

I have a growing conviction that the near future will mark the end of the discussion regarding entrance standards. State supervision will fix these, having regard for the evolving high school curriculum, and the requirement will be at or near to the graduation demands of that institution. The literary colleges, with improvement in mind, will insist upon modifying the secondary schools, and the pedagogical societies may be trusted to find ways of increasing their efficiency. The particular business of the medical profession is to give scientific study to its own part in education and to determine whether or not present day methods of instruction are adequate and satisfactory. For myself, I am frank to say I am doubtful of the efficiency of the present arrangement of the curriculum. Perhaps it cannot be improved, but with the increasing demands made upon the time of the student by reason of growing specialties and new subjects, there is neglect of much essential work. Possibly the best solution is an added year of attendance. To my mind this is a much more reasonable demand than a year or two of premedical study. Every medical educator appreciates how little an academic education can subtract from the requirements of the medical education itself. The scientific training of the academic institution permits of some advanced credit, of course, but after all it does little to lighten the burdens of the medical curriculum. Unless some rearrangement of the schedule shall make possible the necessary clinical and bedside study of disease, the only feasible solution of the problem is an added year in medical college. To my mind this is a subject worthy the best thought of our profession, and that far transcends the question of premedical preparation, it being understood, of course, that the standard of admission shall be progressively advanced with the evolution of our secondary schools.

I believe that state supervision makes for more uniform and thorough education. My experience as a medical teacher, reaching back into the dark ages when state examinations did not exist, and when

state supervision was practically unknown, makes me conversant with the change which has taken place since the higher standards have been adopted. In the old days when commencement took place the last of June, teaching used to "let down," so to speak, about the first of April. We did not do very much during April, and when the hot weather of May came upon us, we did still less. Little was required of the student after the Easter holidays. How different it is now! Every teacher has before him—and it looms big, I assure you—the prospect of sending his students before a state board for examination. Every one of us takes pride enough in his work to want the students in his particular branch to pass creditably before these official bodies. Undoubtedly, therefore, the effect of state supervision has been to increase the thoroughness of medical teaching. Instead of "tapering off at the end" the senior student is held to a high standard to the very last day of his college work. This makes for better teaching and better doctors. For all these reasons, therefore, I am highly in favor of state supervision, and to the question asked in the topic of my paper, "If medical colleges were under state supervision would the medical profession be more uniformly and efficiently educated and trained than by the present system?" I answer most emphatically, *Yes*.

TUMOR OF THE BRAIN.*

By John E. Wilson, A. B., M. D., Professor of Nervous Diseases.

Your president has been so kind as to suggest that it might be of interest to the society that I should report some of the work which I have done with the assistance of others in the removal of brain tumors, although the class of the patients precludes the presentation of the cases or the presentation of specimens, and so robs the subject of some of its applicability to the peculiar field of this society.

This class of pathological growth is of great interest to the physician for many reasons. Expectancy plays no role in its management, since it is almost always fatal, unless removal is promptly undertaken. It is probably true that gummata quite often yield to antisymphilitic treatment, but other cysts and neoplasms do not usually

*Read before the Academy of Pathological Science, February 24, 1911.

respond to potassium iodide, and when there is an apparent exception, renewed activity and death have been the rule in those cases whose after history has been carefully followed. I have given as much as 450 grains of iodide a day in a presumably suitable case with no result, and such an outcome can be discovered to be the rule, if we observe any fairly comprehensive group of cases. It is also of great interest since these patients appeal to all our instincts of humanity, for they are the victims of headache of a great degree of severity at times, and in many cases continuous in its torment. They are also subject to convulsions of a very severe grade, they frequently have diminution of sight, many times to complete blindness, and are subject to widespread paralyses characterized by frequent spasm and contracture. It is also of vital interest from the fact that the disease is not so very rare, since I have had the opportunity of treating either throughout, or at some stage of their illness, sixteen cases in the last five years. Of these cases nine have come to operation, and I have been impressed with certain ones of these since, although some of them have been previously reported, there are contrasting facts in their history which seem to me to be worth our consideration in respect to diagnosis, prognosis and treatment, and the surgeons will, I am sure, be able to give you some new facts in regard to technique, and in one case, especially, forcibly emphasize the value of persistence in the face of apparent failure.

The first patient to whom I wish to call your attention is Mrs. C. She was 32 years of age in 1903. She came under my care in that year because she had been seized with convulsions while in the Catskills in the summer of 1900. They were objectively marked by a drawing up of the left leg, and were repeated at intervals with this constant accompaniment all through her illness. She was a bright, handsome woman, of great vivacity, and looked the picture of health, in spite of the fact that her case had been diagnosed as, and treated for, all sorts of diseases, from hysteria and epilepsy to pelvic disease, for which latter she was under treatment at the time when I first saw her. Her history revealed that at the age of 17, while at the piano one hot summer day, she had a sudden confusional attack of short duration, followed by headache and prostration of a few days' duration, without any after disability which she could recall. After that she had normal health, so far as any especial deterioration could be asserted, but could not attend school, and was nervous, as

the phrase goes. She had a great deal of nervous strain in the years before 1900, and it culminated in the death of her mother, and a year or so after that she married. While in the Catskills she took a forty mile drive, and had her first convulsion that night, preceded by an electric thrill in the hollow of the left foot. The convulsions were focal in type, and evidently not epileptic, and she was liable to have contraction of the left leg, without any other symptom of such a degree that she could not walk. She could feel her face draw, and felt that she was a fearful object. These contractions might last as long as half an hour, and be so severe as to cause great pain, and would leave the gait halting for several days. You will recall that the typical signs of cerebral tumor are projectile vomiting, vertigo and double choked disc and headache. Now this patient, although she had suffered for a long time from flatulent indigestion, did not vomit in any way, had no vertigo, except at the time of the attacks, and her discs were normal. She went on, with occasional muscular spasms, without much increase in severity, but with generally lengthening interval, until there was a complete cessation finally of the convulsions, and a pronounced improvement in general health. Then came a return of the muscular spasms, and she was persuaded by her friends that hers was a case for an orthopedist, to whom she went in March of 1906. After some treatment without improvement she gave that up, and on March 26th of this year she manifested the first noticeable attack of localized headache, and on re-examination of the eyes a dubious haziness of the discs was found. This was not confirmed by the oculist who saw her at that time, although he did not think that they looked just right. Diagnosis of brain tumor was now made, and operation being advised, other advice was sought, and seemed more attractive from its more favorable prognosis, but on October 2, 1908, she was operated and a fibrosarcoma, weighing 1,200 grains, was removed from the falx, extending from the right into the left half of the brain. The patient is now hemiplegic, and considerably reduced mentally. I have reported this case previously, but I wanted to include it in this group, on account of its remarkable and instructive features. Etiology. This girl evidently suffered from insolation on that July day, and it resulted in a minute capillary hæmorrhage. This was a spot of irritation, resulting in the formation of new tissue, and from this grew up a fibrosarcoma, which was of so little volume for years that its

presence was innocuous. After thirteen years it had become large enough to give rise to sufficient irritation to produce muscular spasm, and shortly afterward to induce generalized convulsions. It was three years after this before the slightest effects could be seen in the fundus, although long before the operation she was almost blind.

Contrast this with the case of Mr. S., also 34 years of age, who discovered a clumsiness in the use of his left hand in the latter part of 1903; in 1904 he showed changes in the optic nerves, and on November 1, 1905, he died from a tumor somewhere in the right cerebrum. I feel sure that it was in the right Rolandic area, but operation was refused.

Still more pronounced a contrast, perhaps, may be seen in the case of Mrs. H., aged 52, who, on January 2, 1909, was suddenly attacked with flashes of light on the left side, began to stagger, and ran into everything on the left side of her; feeling nauseated and hysterical all the time. No signs of physical derangement of the nervous system, except this left homonymous hemianopsia, which never abated. She rapidly added headache and motor disabilities to the half sight, and died unoperated in another city, early in 1910. She had a tumor in the radiation of Gratiolet, on the right side, near the internal capsule. This little group shows the wide variation in the rate of growth of the tumor and evolution of distinctive symptoms; it points out, also, how long the double optic neuritis to which we attach such a degree of diagnostic importance may be delayed in appearance. I think that the first case also teaches the imperative necessity of operation as soon as any reasonable grounds can be discovered for it, for I think that if Mrs. C. had been operated when I first made the suggestion she would have been restored to a condition of relatively normal efficiency, both physical and mental. It also points out the value of "signal symptoms" in localization with a definiteness which was almost uncanny, for you see that the foot area was primarily irritated.

The other two cases are instances of two categories of cases that we encounter. The first one would not be operated, and the second case could not be.

The next case was that of Mrs. J., 32 years of age, white. I saw her on December 1, 1910. Two years before she had a convulsion, followed by a range of symptoms ascribed to neurasthenia, viz., severe vertical and right-sided headache, with weakness in the legs,

which headaches were succeeded by attacks of vomiting. Later she came into the care of another physician, when he noted the development of ataxia, with a tendency to fall backward and to the right, not forced movements, but solely an inclination to fall to that side when walking. There was no choked disc, and aside from a weakening of the left side of the face there was no localizing sign; with so complete an ataxia (static) a growth in the cerebellum was strongly indicated, and the left facial paresis seemed to further direct our attention in that direction. After that she had a history of great variation in all the symptoms; she would lose the ataxia, and the convulsions, but would have a most intense headache, and would go into collapse states of great severity, and at one time, after a hypodermic of morphia, her pulse went down to six per minute. By February 27th, 1910, she developed double choked disc, and severe headache and prostration, and operation seemed advisable if only for relief of pressure. Failing any other localizing signs the lower right frontal region was selected, since it would explain the ataxia, for a lesion of either the frontal or cerebellar lobes will produce a similar ataxia, it would take in the cortical representation of the left face, and the cranial nerves seemed too intact to allow the presence of a tumor in the cerebellum. When this flap had been turned back a cyst was disclosed which was opened and drained with the immediate relief of all the symptoms. In a short time they returned to such an extent that aspiration was performed several times, the wound was opened up a second, and, finally, for a third time, when the cavity, now as large as a plum, was packed and the wound treated as an open one. This last procedure proved successful so that on February 8th, 1911, the patient presented herself at my office and pronounced herself as well as ever, capable of doing her housework and of walking miles when she wished. Examination showed normal optic discs, absence of facial palsy, and ataxia and while all the deep reflexes were slightly exaggerated they were symmetrical. I was forced into this operation before I was sure of the site of the growth, for while the general symptoms of tumor were conclusive localizing ones were very ambiguous. The result showed that in the absence of cranial nerve palsies we may look to the frontal lobe as the source of the extreme type of ataxia which we are accustomed to attribute solely to growths in the cerebellum, and in the determination of the value of accompanying palsies we must

sharply differentiate between those which come from the lesion of a nerve, and a lesion in the cortical representation of a nerve. The notable sleepiness, mental dullness and slowness in articulation were not of localizing value in the case, as they came so late as to be probably the result of generalized pressure. The return of the symptoms as the cyst refilled, and the prompt relief on its evacuation, points out the great relief which we can confer by a decompression operation, and there is no objection to it from a possibility that it may remove the localizing signs from which we might hope to perform a curative operation. Decompression will never mask localizing signs when the time comes for their exhibition, for they arise from the local damage which the growth produces, and not on the existence of general pressure, which is all that we relieve by the suggested operation. The perfection of recovery in this case shows us what long continued pressure and distortion a brain may in some cases endure without structural damage. I learned most of all that persistence in doing the surgically correct thing in the face of repeated discouragement was just as much a duty in the surgery of the brain as in lesions of any other tissue, and that if the only measure that promised to do any good was, perhaps, too drastic to be tolerable, it was far better than to be content with doing only that which was safe, which in this case would have been equivalent to doing nothing.

The next case which I shall take up is that of Mr. S., twenty-one years of age, single, white, a carpenter by trade, and a man of singularly powerful physique, and of robust health, and a clean history. He came to my notice on April 28th, 1910, and stated that except for a slight hypothetical sunstroke during the previous summer he had never known an illness. He said that on Decoration Day two years ago he tried to run in a foot-race, as he had formerly done with success; and found that he easily tired in his legs, and had lost control of his right one. Until August of 1909 these disabilities did not recur except under strenuous exertion, but in that month he found that it was difficult to walk in a straight line, and that he was liable to trip with his right toe. Even at this time a little rest would, for a time, remove the disability. By January, 1910, he became increasingly incompetent in locomotion, and, in addition, he developed shortness of breath, seemed to have a little vertigo, a general weakness of the knees, and headache, if he used his eyes

or walked much. There would be headache usually in some part of every day. He vomited on April 26th, in a projectile manner; but there was some nausea preceding it, and his physician thought that it might be ascribed to some medicine which he had been taking. He now reels when washing the face or walking, is slow in speech and shows some mental reduction. He has no pain in any part of the body, and no incontinence, but he is slow in starting urination, and the urethra is insensitive. By May 9th, headache has become practically continuous, aggravated by reading, and is mostly in the forehead over the eyes. There has been no more vomiting, but the appetite is poor; he is very weak and short breasted. He writes badly from the presence of tremor. Examination in April showed exaggerated deep reflexes on the right side of the body, while the left face was weak. The ocular movements were normal, the pupils even, and the discs clear. On May 23d, all the symptoms on the right side were aggravated, the right foot and the left hand shake, headache is constant, the discs are possibly a little hazy, but vision is still good. Patient is very forgetful. On June 18th, all the symptoms on the right side are so increased that the limbs are in a state of spasticity, so as to cloud some of the reflexes, left palatal arch is weak as well as the face, there is diplopia, nystagmus, double choked disc, and amblyopia. The left half of the face is somewhat anesthetic, and the same side of the body slightly less so. The reeling ataxia with cranial nerve palsies on one side and symptoms of irritation of the descending motor tracts of the other side of the body pointed to a growth on the left side of the central lobe of the cerebellum, and, therefore, the skull was opened at this point, and a cyst found and evacuated. On November 23d, examination showed little muscular improvement, but the right optic disc was clearer, and the patient felt perfectly well, and ate and slept well. December, 1910, examination showed a Babinski's reflex on the right side, its discovery being due to a subsidence of the spasticity, there was a general improvement in station and muscular power. The diplopia is gone, discs are clearer, and the patient reads well. He can read with comfort badly printed newspapers all day. Report from his physician in February states that progressive improvement is apparent. The points of interest in this case are three; First, that sight can be so completely lost, and so completely regained; second, that injury to tracts from pressure may be so slow

in recovery; third, that early dulling of mentality does not demand a localization in the left frontal lobe, for I may not have sufficiently emphasized the fact that he was almost silly at my first interview. The steady, though slow improvement in this case gives grounds for a considerable perfection of recovery.

The next case is that of Mr. M., white, fifty-two years old, lawyer by profession. He consulted me on the 18th of March, 1910. He had a good family and personal history, with the exception that at the age of twenty-two he had a severe fall on the back of the head, after which he had a "loose feeling" inside, but consulted no physician, and he had also been subject to bilious attacks and pain in the back of the head, and looked older than his years would warrant. He reported that during the last summer, while he was out to see a client, he felt badly and smoked a cigar, with the result that he felt as if he would fall off his chair. Went home and was confined to bed for two weeks with a pain reaching from the left side of the occiput, which left a sore spot until the present time, and there was pain in the eye, but sight was good. One year previously he could not focus the eye so as to catch a ball (diplopia probably). He then went to the seashore, and while riding to the hotel in the stage found that he had diplopia. This refers to 1909. In July of this year while in bed in the dark had a dizzy feeling, with roaring in the ears, aggravated by pulling the auricle, and felt as if he were about to have a fit. He vomited in this attack, but had no nausea except on this occasion. Physical strength was good at this time, and mental also, and not much headache if the bowels were regular. Sometimes had pain in the right thigh and in the right foot. On October 5th, he went to an oculist on account of diplopia from a weakness of the right external rectus, and he reported that both eyes were weak in visual power, but no change in discs. On November 6th, no fundus changes, but field contracted on the nasal side. On November 16th, field gone on nasal and diminished on temporal side, but the discs were still clear. Up to this time there was no sign of choked disc in either eye. On March 18th, examination showed right exaggerated knee-jerk, right radial exaggerated, a faint cremasteric on the right, some swaying in station, while the perceptions of position, pain and temperature were all normal. There was complete atrophy of the right optic nerve, and choked disc on the left. He then went into the Flower Hospital,

and after daily examinations he gave a most confusing and changeable picture. He seemed perfectly well except for an almost total blindness. Finally a left ankle clonus and Babinski were found on one day only to be dubious on another examination, but on this additional localizing symptom he was operated on May 5th, by taking out a bone flap from the right parietal region, and a cyst was discovered, drained and packed. After a rather stormy two or three days he rapidly convalesced, and left the hospital on the 29th, having lost the numbness in the right leg. He showed an exaggerated but symmetrical jerk in both knees, a suggestion of left ankle clonus, but no Babinski. On January 31, 1911, he reported, and said that he never felt better in his life, both intellectually and physically. He has a little of the numb feeling in his right leg; but it is rather a nervous sensation than anything else. Ocular examination shows a perfectly white right optic disc and blindness in that eye, while the left is less so, and he can read with it in bright sunlight. How far that eye will improve, and whether any improvement will occur in the right eye is a subject for a more expert opinion. The teaching of this case to me is that in such a confusing case as this we may be able to successfully localize the growth if we free our minds of preconceived ideas and take up the case anew day by day until we find some definite sign, however slight it may be.

My last case is that of Miss K., 25 years old, white, single, nurse. She entered the Flower Hospital on February 24, 1910. She was operated by a surgeon who performed an oophorectomy, appendectomy and ventral fixation, from which she made a good surgical recovery. In passing through the ward one day my attention was called to her from the fact that she had a convulsion apparently of a hysterical type, although on examination she presented none of the stigmata of hysteria. Not being under my care she passed from my notice. She again came into the hospital on the 11th of November, 1910. She complained of continuous headache, and wished to be operated for it. History disclosed that her father was living and well, her mother had died of tuberculosis, and she had one brother living and in good health. She had had scarlet fever at nine years of age, salpingitis, endometritis and enteritis at 19. Was not operated. Various pelvic operations in 1909. Dysentery and indigestion for the last three months. Six years ago she fell from a merry-go-round and was unconscious for several minutes, and suffered

from headache and earache for six weeks after. There was no discharge. Then she became dizzy, and has since suffered from it at intervals, and especially just before the menses. Eighteen months ago, in April, she fainted in a drug store, and fell, striking the left side of her head on the counter. While being taken home she jumped from the automobile and fell on the right side of her head. At that time the whole left side was paralyzed for about four weeks, and she has had convulsions since, which start in the feet and spread over the whole of the body. Always fall back or backward. June 15th, she fell, striking the back of her head on a curbstone, and was delirious for eight weeks. Has had continuous headache on the vertex and occiput for the last five days, and also a continuous pain on the entire right side. Chilliness of the right side every few days, which begins usually about six in the afternoon with occasional hot flashes of the whole body, followed by chills on the right side. On looking up her history on her former admission I found that she had had convulsions every day or two, sometimes as many as three in a day, and lasting from a half to five minutes. Examination showed only the usual exaggeration of reflexes found in a neurasthenic patient with intact sensation of all varieties. On examining the eyes I found contraction of the visual fields such as we are accustomed to find in hysteria, but an intra-ocular examination revealed double choked disc and beginning atrophy of the right optic nerve. There was a depressed fracture of the left parietal region. The ocular condition pointed to a tumor, but the whole of the rest of the picture gave no support to such an opinion. Since an operation was desired, and there was a depression in the parietal region, I advised an operation for its elevation. On October 18, 1910, a bone flap was made in the left parietal region, and a cyst disclosed, which was drained and left with a drain in the cyst. Recovery was uneventful and satisfactory, and the patient left the hospital apparently well. This case showed that double choked disc may be the cause of a contraction of the visual fields, when a little carelessness might lead one to assume that it was hysterical in origin. This paper does not cover all operated cases, since a further tax upon your patience would be an imposition, but I wish to point out one more deduction which I think should not be omitted. In a recent article Horseley, of London, pointed out that a tumor would generally be found upon the side of the most pronounced choking

of the disc or atrophy if it had proceeded thus far. Cushing, of Johns Hopkins, or one of his assistants on his data, has denied this. In all but one of the cases cited the doctrine of homolaterality has been corroborated.

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DISCUSSION.

DR. McLEAN gave the history of the patient referred from Dr. Norton's clinic. Mr. M., age 51. General health good, except a torpid liver for years, and some rheumatism. Has worn glasses for some time. Four months ago he noticed a diplopia, which continued until ten days ago, at which time he had an attack of biliousness, and has been in bed since. Three or four days ago noticed that he could not see with the right eye, and thinks loss of vision came within the last ten days. At times a cloud comes before the left eye, blinding the vision. Uses tobacco moderately (smokes about three or four cigars a day). Vision was O. D., figures 3 ft. O. S. $15/100 + 4. = + 50$ D. C. ax. 90 $15/12$ sd. He was wearing a 4.50 Ds. in the left eye for distant vision. Ophthalmoscope revealed a very marked papillitis with much swelling of the disc of O. D., while the O. S. showed a very peculiar whitish, mottled appearance with a low degree of papillitis. With the perimeter, the field of vision for form showed a slight concentric contraction, also a concentric contraction for colors. No scotoma.

November 27. Vision same as in first test, and no change in symptoms except a slight redness of eyes.

December 18. Test for vision in good eye was same as on first day. complains that cloudy condition of O. S. comes on oftener, and noticed that it comes on after exertion and lasts a few seconds. As the intermittent Roentgen ray flash was being extolled as producing remarkable results in papillitis, he was told of its alleged curative value, and he wished it tried in his case. Some treatments were given, and as his physician possessed the flasher, he continued the treatments, but without results.

January 3. He thinks clouds before O. S. come more frequently and during the clouding everything is dark. Intra-ocular appearance not changed.

January 18. In O. S. vision range $15/12$ 4 1. A little later, as there was no improvement, his family physician was advised to have him consult Dr. Wilson as to the possibility of a possible tumor.

March 15, 1910. V. $15/15$ 4 1. Complains of increase in cloudiness. Received a letter from Dr. Wilson stating that he suspected a tumor of cerebellum, but that evidences were too vague and uncertain for a positive diagnosis.

January 31, 1911. Patient came to office to report that a cyst in

the Rolandic area of the cerebellum had been removed by Dr. Bishop, and that since recovery from the operation he had been relieved of his distressing symptoms, excepting the loss of vision. He was tested, and the vision of the O. D. was nil; the O. S., with glasses, was 15/12. The papillitis had disappeared from the O. D., and an optic atrophy was present. The disc of the left eye presented an atrophic appearance, far beyond what would be expected from the retained good vision.

DR. DOREMUS said that he would describe very briefly his case to which Dr. Wilson had referred. The woman had three operations, the first on March 1, 1910. The purpose was to do a subtemporal decompression. When the cortex was removed, it was followed by a spurt of fluid; at the time the fluid was lost, the patient showed no change of condition under the anæsthesia, no swelling of the pulse, etc. It was closed tight. The reason for this was that the cyst cavity was so low that any drain left in would have been infected. The patient was aspirated several times afterward, at intervals of about three weeks, when the symptoms would reappear. A second operation was performed September 15th, 1910, in order to cause granulation of the cyst cavity. The cavity was freely opened. It was so large that the wall of the lateral ventricle protruded. In order to prevent this from breaking down, a piece of tissue was laid over the ventricle. It required nearly a month to remove the drain. It was withdrawn until a little blood appeared, and was then allowed to loosen up and more withdrawn, until it was finally removed altogether, and the aperture closed. Later the patient was taken to the hospital for another operation, which was simply for the removal of the rubber tissue.

The case presents an excellent illustration of the value of the decompression in cases of brain tumor, even in cases of gumma. Horsley has advised this for all brain tumors. A gumma may return, but cases have been known to be cured entirely after a decompression operation. Another point illustrated by this case is the absence of a hernia, and the power of the brain to reassume shape after a cyst has been drained or a tumor removed. The brain surgeon is unarmed without a neurologist. A brain surgeon cannot be a neurologist.

DR. WILSON said that Dr. Doremus had not done himself justice in presenting the case. It presented all sorts of difficulties. The family were not people of means, though they did what they could. They were persons of a low grade of culture, and were filled with all sorts of fears which such people have. Dr. Doremus had to accomplish what he did by sheer force of nerve and certainty that he was right. When he came to the second operation it required the most delicate sort of work to preserve the woman's life, and the doctor deserved much credit for bringing the case through. She was a most deplorable looking object, and had so many general

symptoms that the localizing one could not be determined. She came to the office the other day and looked strong and well, and competent and happy, and was in possession of all her faculties; mental and physical.

DR. BISHOP said that he had been associated with Dr. Wilson in several of the cases which had been reported, and that it was difficult to realize the amount of work the doctor had given to this special subject. Brain tumor was one of the most obscure conditions with which the physician or surgeon has to deal. He has met many diagnosticians and has found that they could reason out their conclusions with some degree of certainty, but Dr. Wilson's reasoning was very remarkable. These cases are all obscure, and we are fortunate in having his assistance.

Dr. Bishop said that he had been asked to speak on the technique of some of the operations, and felt that this should include the administration of the anæsthetic, for that was a very important point. These cases, above all others, should have the benefit of the most expert anæsthetist available. Only recently he has lost a patient who had brain tumor, presumably on account of the anæsthetic having been given by an unskilled man. There is something very peculiar in all of these cases of anæsthesia. The day before he had seen a patient who was operated upon for fracture of the base of the skull. When the wound was sewed up, the man ceased breathing suddenly. His heart remained good, with a rate of 80 to 120, but he gave no sign of respiratory effort for seven and a half hours, during which time continuous artificial respiration was kept up. One could not say that the anæsthetist killed the man, for the autopsy will certainly show that he died of a very serious condition, but it was certainly singular that he had been alive and had shown no signs of respiratory failure for over twelve hours, and should suddenly die at the end of a mild trephining, after but three-quarters of an hour of chloroforming.

In the performance of the trephining, he has discarded as much as possible the application of ligatures; the bleeding points should be controlled temporarily, and the permanent control of the hæmorrhage by the suturing of the wound and the coaptation of the edges. The bleeding which comes from the diploe is very troublesome; the bleeding which comes from the deeper parts are matters of special consideration. The method of entering the skull and the mode of procedure is also interesting, inasmuch as time is an important element. A short, quick operation is more likely to be successful than a long delayed one. A tumor of the cerebellum requires a longer operation than a tumor of the cerebrum, and any instrument which will help to make a quick opening is an advantage.

Dr. Bishop then showed some trephines which he had found very effective and helpful, for when the dura is reached they stop automatically. They are put on an ordinary handle, and the minute

the point of the trephine pierces the inner table of the skull it automatically stops, and it cannot be turned any further. This instrument has been brought out within the last year and is a very great time saver. By making four or five drills with this instrument, and then connecting them with any instrument preferred, a large osteoplastic flap can be easily and quickly made. Dr. Bishop said that he does not like the ordinary English saw, and showed the instrument which he likes best. When the holes are connected, some spot is left, so that when the flap is placed back it will not sink.

Dr. Wilson had stated that most of these patients are apparently worse after the operation for the first day or two. That is to be anticipated, and it is rather a help than otherwise to see the symptoms aggravated that you have been watching; it indicates that the right spot has been reached, and the symptoms will eventually disappear. The drainage should be kept up in these cyst cases until the flow ceases. His own preference is for a small rubber tube placed in the scalp so that it cannot be torn out with the dressing, and it should be allowed to remain in until the colorless fluid ceases to appear in the tube. In some cases it was a month before the tube was removed.

DR. FOBES said that he had been present that afternoon at the autopsy of the case referred to. The tumor was found at the base, just behind the ear, running down in the petrous portion, and a subdural clot was found on the opposite side attached at three or four different places to the cortex. The clot was very large, and it was evidently a case of *contre-coup*.

DR. DOREMUS said that a very easy method of controlling the hæmorrhage is by means of a long clamp, guarded with rubber tubing, slipped over the base of the flap; another is by placing a strip of one thickness of gauze over the whole skull, and a tourniquet over the gauze; another way is to use a running mattress suture of horseshoe shape. The worst hæmorrhage is usually in the subtemporal region. The mortality from brain tumors is very high—probably because the surgeons have not yet learned, as they have in abdominal surgery, when to stop. Decompression is practically without danger, and if the surgeons would be satisfied to stop perhaps more patients would recover and more patients would be operated upon.

DR. HASSLER said that Dr. Bishop had made a good point in regard to the importance of the anæsthetic. He had spoken of two unskilled men who had given the anæsthetic. Under these conditions one would be very liable to blame the surgeon for not overlooking the anæsthetic. Chloroform is almost positively contra-indicated in brain surgery. There are three parts of the body operations on which should not be done under chloroform, the rectum, upper abdomen and the brain.

The Edinburg Commission reported some years ago on the ques-

tion of ether and chloroform in skull surgery. Ether is now mainly used on the Continent. The cause of death is the result of the anæsthetic, whether ether or chloroform, on the respiratory centers. Unless the patient is completely anæsthetized it is extremely dangerous. Chloroform should not be given in brain operations, even in skilled hands,—much less so in unskilled hands.

DR. BISHOP said that chloroform had been given in the case of yesterday, but the anæsthetic had nothing to do with the result. He admitted the culpability of the surgeon in not looking after the anæsthetic. The other patient had ether to start with, and had only about fifteen drops of chloroform, after she showed signs of not doing well on ether. Whether or not that had anything to do with the fatal result, he could not say. He wished to emphasize what he had said at the beginning—that the anæsthetic part of the procedure should be looked after most carefully. He would hesitate very much to trust any of these cases to an unskilled man.

DR. FOBES said that he had had an interesting experience at Johns Hopkins at Christmas time. Cushing there gives nitrous oxide mixture, and performed many operations on the skull,—some on the pituitary body,—under this anæsthesia. He would be glad to know Dr. Hassler's opinion of this method.

DR. HASSLER said that the nitrous oxide mixture has been largely employed in brain surgery and has been found of great benefit, especially in its non-toxic action on the brain.

DR. J. IVIMEY DOWLING said that he had had some cases which were diagnosed as brain tumor, some of which had been confirmed at autopsy, and others which had not been confirmed. He had not seen any cases which were relieved. A patient came to him years ago with a condition which he believed to be sphenoid abscess, but which had been diagnosed as brain tumor by two very prominent men. He had the case for some time in his private hospital and it improved under nasal surgery. The case finally came to autopsy and while there was some pus the autopsy did not reveal any tumor at all, and it was put down as an unusual case. He was abroad at the time of autopsy, but his idea was that the autopsy was not complete, for they did not investigate the sinuses; he would, accordingly, suggest that cases simulating brain tumor have their sphenoidal sinuses investigated. In another case a patient consulted him because of headaches and exophoria. He made no diagnosis whatever, but put her on some exercises and she was relieved for a time. Finally they called in her family physician, and she died in twenty-four hours. The autopsy revealed a cyst of the cerebellum. The explanation was that the cyst had in some way drained, and during the period in which it was drained she was free from symptoms, but when the fluid accumulated she had pressure symptoms. There was no evidence of neuritis; or papillitis, no nausea or vomiting, nothing to suggest the condition

excepting the severe headache. Since then he has referred cases of severe, persistent headache to the neurologist, with benefit to the patient. He could not say whether or not it was possible for a cyst to drain automatically; it did not seem quite plausible, yet that was the explanation given in regard to the subsidence of the symptoms. It would be well to consult with the neurologist oftener in cases of persistent headache.

DR. WILSON said there was a better explanation for the subsidence of the symptoms than drainage of the cyst. At autopsy tumors have been found which were not suspected at all, although the persons had had previous illnesses which looked back upon would perfect the evidence. Moreover, in this case, the sarcoma which had quieted down had given rise to intense symptoms, and yet the year after the patient came under his care she was practically free from trouble, although the tumor was undoubtedly there. The brain seems to acquire toleration for a quiescent growth, but loses this toleration when they are renewed and start up with greater activity. The case Dr. Dowling had cited was another instance of this.

In respect to etherization: When the bone flap is taken out the brain will sometimes well up and stay up, and then in a few moments you can smooth it down and it will stay down. That shows a great disturbance. Another point found at the autopsy, which Dr. Fobes had not mentioned, was that a large, persistent thymus was found, and the coroner spoke of that as being one of the cases where life hangs by a feeble tenure, and where the patient was liable to collapse without warning.

In regard to the surgical side,—rapidity of operation is essential. In cerebellar operations, especially, it must be remembered that it is not wise, unless the growth can readily be handled, to deal with only one opening; there should be a contra-lateral opening. If any surgeon is wedded to the use of the eggshell membrane to prevent adhesions, he should study the technique of removal, for it has made trouble in every case he has seen.

THE RELATION OF THE MIDDLE TURBINATED BODY TO DISEASES OF THE EYES.*

By J. Ivimey Dowling, M. D., Albany, New York.

The relation of the middle turbinated body to diseases of the eyes is of such intimacy through the nasal nerve and its relation to the ciliary nerves as to be an important factor in the causation of

*Academy of Pathological Science, February 24, 1911. [This is only an abstract of Dr. Dowling's paper.—EDITOR.]

conditions of erratic refractive states, retinal æsthenopia, serous retinitis, iritis, and other affections of the uvea. The citation of ten cases of conditions in which symptoms were very similar and which were all relieved through amputation of the anterior half of the middle turbinated body seems to corroborate the view that many ocular diseases are continued through reflex irritation resulting from hypertrophied middle turbinated bodies or closed empyemas of the proximate cells. The consideration of the ten cases led to the following conclusions:

First. In all cases of retinal æsthenopia uncontrolled by the use of glasses, attention should be given the anterior ethmoid region, and the presence of hypertrophied middle turbinated bodies should suggest the wisdom of surgical interference.

Second. Recurrent iritis should call attention to the anterior ethmoid region for thereby the open sesame to cure may be discovered, as neither syphilis nor rheumatism are the only causes of this variety of iritis.

Third. Simple glaucoma in which for one reason or another iridectomies are impossible because of infection of the conjunctival cul de sac, or in which treatment has failed to control disease, should have attention given the anterior ethmoid region, and hypertrophied middle turbinated bodies when present should be amputated.

Fourth. Epiphoria, conjunctival congestions, tenderness of the lachrymal glands, all should serve to call attention to the ethmoid region.

Fifth. Chronicity of any ocular disease in which the ciliary nerves may be involved, should serve to call attention to the anterior ethmoid region. The treatment in these cases is simple amputation of the anterior half of the middle turbinated bodies.

Finally. The author does not wish it to be understood that he advocates the amputation of all hypertrophied anterior turbinated bodies for the cure of all ocular diseases, for it must be remembered it is only in suitable cases that the operation will prove satisfactory, but in properly selected cases there is no method of treatment that is its equal.

DISCUSSION.

DR. SHEPARD said that the deductions presented by Dr. Dowling as the result of his careful investigations along new lines are surely reasonable, when the close association of the systems of the eye and

nose are considered. He has had no personal experience in regard to the benefits of intra-ocular disease from nasal treatment, though this may be due to lack of observation. Twelve years ago he had a case of vernal catarrh, one of the peculiar diseases of which very little is known,—no one can say why it comes nor why it goes. It generally passes away in winter. The patient, a sturdy healthy looking man, had symptoms of extreme irritation, and was treated from spring to fall without apparent benefit. During the winter he was comfortable, but in the spring again had the same condition. He was sent to a rhinologist who removed the turbinates, and during the summer his vernal catarrh disappeared. This would suggest that the relief was brought about by a reflex from the nasal condition, but since then he has seen the same trouble not benefited by nasal treatment. The epiphora frequently disappears after the removal of nasal obstructions. In the future he would pay more attention to intra-ocular diseases, particularly in cases of erratic accommodation, which are very common, and would see to it that the nasal cavities are thoroughly examined.

DR. PALMER expressed his appreciation of the thorough way in which Dr. Dowling had studied the affections and the treatment* of the ethmoid, especially his method of tamponing with argyrol. The studies which the Doctor had made along these lines have been very helpful. He also endorsed what had been said about the effects of the disease in the vicious circle, as Ballinger designates it,—the ethmoids, the cells around the maxilla, and the anterior portion of the turbinates,—which he calls the vicious circle of the nose. Half of the difficulties of the nose seem to be situated in that locality.

What had been said about change of refraction, recalled a case he had seven or eight years ago at the Ophthalmic Hospital. The patient came to him and after operation went to the eye clinic and complained that her glasses did not fit. The oculist replied, "Of course they do not fit! Where did you get them?" The woman responded: "Why Doctor, I got them in your own place!" That was one of the early cases in which he had first noted the effects of intra-nasal disease on the eye. In another case, the patient suffered from a recurrent conjunctival trouble and ulceration of the cornea. He did not care for the eye portion, but the patient had a longer relief from eye symptoms after the ethmoids and middle turbinates had been operated upon.

DR. McLEAN remarked that he had nothing to say about the operative side of the work, but last summer had spent a most enjoyable day with Dr. Dowling watching him carrying out the technique of nasal tamponading, and since then has practiced it himself with remarkable results. In one case the patient had suffered from three

*Dr. Dowling's method of Nasal Tamponade was described in a paper by him printed in the February, 1911, CHIRONIAN.—EDITOR.

attacks of acute glaucoma, and iridectomy had been resorted to in order to control the glaucoma. Some years later the other eye was operated upon by iridectomy by Dr. Norton, and a few years after that there was another attack of glaucoma in that eye. Last November the patient had a fourth attack of glaucoma, and came to the office feeling that he would have to have another operation. He was told of the tamponade treatment, and it was tried. The attack was controlled and passed off without operation, and the patient recovered completely. Another case of chronic glaucoma which had been operated upon but was steadily progressing, was sent to Dr. Dowling for his opinion. He used the tamponade treatment for four weeks, watching it very carefully, and it cleared up, and the patient was sent back. There is a great deal in the manner of placing the tampons. This man had had his directions from Dr. Dowling in writing, but the man came to the office and said he did not get the results Dr. Dowling had achieved, and that he felt entirely different after the use of the tampons. After having watched Dr. Dowling, Dr. McLean tried them, and on the first application the man began to sneeze, and kept that up for fifteen or twenty minutes, and had a tremendous quantity of viscid material discharge from the nose, but he felt better afterwards, and was better. The tampons were used for some time at gradually increasing intervals, but he has not now had a tampon for nearly a month, and seems to be getting along finely.

In another case of recurrent ulceration of the cornea, treated by the tampon method, the patient promptly recovered. Some time afterward the patient had another attack and was advised to go to another physician who sent the patient to the Manhattan Hospital and said the case was so bad that the cautery would have to be used. The patient returned to Dr. McLean later and said that the treatment had done him no good and that he did not feel nearly so well as before, when he had been treated with sponges in his nose. He was again treated with the tampons and he got well, and has had no attack since. That was at Christmas time. Dr. Dowling had done a remarkable work in the relation of the nasal cavities to the eye condition.

DR. J. I. DOWLING: In addition to the technique of applying the nasal tampons, one must also consider the frequency with which it should be used. S., of Philadelphia, has quoted this method of treatment in his therapeutics, but recommends using it two or three times a day. If that is done, the patient will be made worse instead of better. In Philadelphia the method is being used quite a little; some men are strongly in favor of it, and others are opposed to it. It has been adopted by many old school men. It should not, however, be used too frequently, and the periods between applications should be gradually lengthened. One patient had at the first applica-

tion an intense labyrinthine vertigo, and it was feared that he would not show up again, but he did. The symptoms continued more or less severely for a week and then he was better for a long time. Shortly afterward he was back again and said that he was willing to be sick for a week in order to enjoy the subsequent permanent benefit. If a patient should come to a physician who had not had that experience he might think he was not competent.

The proper treatment of abnormalities in the nose may help the eyes. He had dwelt upon the anterior ethmoid region, for that is supplied by the branches of the nasal nerve and has intimate relationship with the ciliary region of the eye, and controls the inflammatory processes of that region. Amputation was performed on the anterior half rather than the whole turbinate, because of the belief that in operations of this kind we should be as conservative as possible, and interfere as little as need be, for the patients are less likely to have the atrophic processes which frequently occur where the turbinates are removed ruthlessly. Some years ago a patient was referred for treatment by an old school man. He had been under the care of several men who all pronounced him neurasthenic and said that nothing could be done. A prominent oculist had prescribed various lenses, none of which helped him. In such cases careful search should be made into the cause of the condition; and when an oculist gives a man a different prescription every time, it shows that something is wrong. Examination of the patient's nose showed that the septum was deflected, and the spur impinged upon the inferior turbinate, producing an erosion and constant irritation. In such cases the surgery should be directed to the spur, which was the primary cause of the trouble. The situation was explained to the patient, who was a surgeon, and he said that the reasoning appealed to him, but that he had hardly expected to get such treatment from a homœopath. The operation was performed, and within the year that has elapsed since he has had only two slight headaches, and has been able to conduct a large real estate business, and has retired from surgery. This case would show that in investigating the nose it is not always the middle turbinate that is the primal cause. Any irritation which suggests irritation of the ciliary region or nerve should prompt a careful search into the nose as the possible cause.

A DIAGNOSTIC POINT IN UTERINE FIBROIDS.

By T. Drysdale Buchanan, M. D., New York City.

It sometimes happens the one looking on sees more than those playing the game, and it may be for that reason that an anæsthetist is reporting this observation rather than a surgeon or gynæcologist.

For many years the writer has noticed that in a large proportion of the cases of uterine fibroid the patients have also small or large fibroma of the skin. These may appear on any part of the body, and may or may not be pedunculated.

The commonest location being the eyelids, chin or neck, not infrequently, however, being found on the abdominal wall near the pubes.

To be diagnostic the tumor *must* be a *fibroma*. *Warts, moles, papillomata and other excrescences have no particular significance as regards uterine fibroids.* In corroboration of this sign the observer has had a number of the skin tumors cut off from patients operated upon for fibromata, and the pathologist reports that the tissue is identical with that of the uterine growth.

The sign is not always accurate, for many cases operated upon for uterine fibroid do not have these skin tumors, and some cases having the skin tumors are not afflicted with uterine tumors, but the coincidence occurs so frequently that the presence of the fibromata should make the physician suspicious of uterine fibroid, and suggest to his mind the advisability of a pelvic examination.

The presence of these tumors on the male skin is said to indicate a fibroid prostate, but this the writer has never been able to verify.

210 West 57th Street.

OBSERVATIONS ON THE TREATMENT OF ARTERIOSCLEROSIS.*

By William H. Dieffenbach, M. D.

Professor of Electro- and Hydro-Therapeutics.

Arterio-sclerosis or arterio-capillary fibrosis, since its classification as a disease entity, has never received more attention from the pathologist and clinician than during the past few years. In order to fully appreciate the methods of treatment employed in arterio-sclerosis, it will be profitable to rapidly review the etiology of the disease as at present understood. To quote from Osler:†

"The factors causing Arterio-sclerosis are as follows:

"I. *Hypertension.*

*Read before the N. Y. County Hom. Med. Society, March 9, 1911.

†Osler, Practice of Medicine, sixth edition

"The degree of pressure maintained in the cardio-vascular system with its periodic increase with each systole has an important influence in the production of organic changes in its walls. The blood pressure varies greatly in different individuals and in the same individual under varying conditions. There are persons with chronic *hypertension*, perhaps associated with lowered resistance and an increased susceptibility to infectious disease. In *asthenia* from any cause, in the toxemias of typhoid fever, tuberculosis and many infectious diseases the vascular tension is low.

"An increase in the tension is found in certain chronic diseases, such as gout, and in various forms of cardiac and renal disease. Much diversity of opinion exists as to the relation of the hypertension to the structural change; some think that the hypertension is secondary, others, notably Allbutt, contend that it not infrequently exists primarily, a view substantiated by the recent studies in pulse tension. There are persons who show a rise in blood pressure at or about middle life without discoverable organic disease and who subsequently become subject to arterio-sclerosis and renal disease.

"II. *Involution.*

"As an involution process, arterio-sclerosis is an accompaniment of old age, and is the expression of the natural wear and tear to which the tubes are subjected. Longevity is a vascular question which has been well expressed in the axiom that "a man is only as old as his arteries." To a majority of men death comes primarily or secondarily through this portal. The onset of what may be called physiological arterio-sclerosis depends, in the first place, upon the quality of arterial tissue (vital rubber) which the individual has inherited, and, secondly, upon the amount of wear and tear to which he has subjected it. That the former plays a most important role is shown in the cases in which arterio-sclerosis sets in early in life in individuals in whom none of the recognized etiological factors can be found. Thus, for instance, a man of twenty-eight or twenty-nine may have the arteries of a man of sixty, and a man of forty may present vessels as much degenerated as they should be at eighty. Entire families sometimes show this tendency to early arterio-sclerosis—a tendency which cannot be explained in any way than that in the make-up of the machine bad material was used for the tubing.

"III. *Chronic Intoxications.*

"Alcohol, lead and gout play an important rôle in the causation of arterio-sclerosis, although the precise mode of their action is not yet clear.

"Syphilis is one of the most important single causes. There is a local syphilitic arteritis most commonly seen in the aorta; a meso-arteritis—which is a prime factor in the production of aneurism and there is a late diffuse change, comparable to the para-syphilitic lesions in the nervous system.

IV. *All Over-Indulgences.*

Overstudy, excess of drinking, the stress and strain of the modern life. "There are men in the fifth decade who had not had syphilis nor gout; who have eaten and drank with discretion and in whom none of the ordinary factors are present—men in whom the arterio-sclerosis seems to come on as a direct result of high pressure life."

V. "Overwork of the muscles which acts by increasing the peripheral resistance and by raising the blood pressure."

VI. *Renal Disease.*

"The relation between arterial and kidney lesions has been much discussed, some regarding the arterial degeneration as secondary, others as primary. There are two groups of cases, one in which arterio-sclerosis is the first change and the other in which it is secondary to a primary affection of the kidneys."

Arterial fibrosis is particularly marked in chronic interstitial nephritis and increased tension is almost pathognomonic of this form of nephritis even if the urinary features are scanty.

Sondern (N. Y.) holds that arterio-sclerosis is due to the toxic influence of products of incomplete metabolism developed as a direct result of deficient body oxidation. This observation agrees with the studies of the writer on this subject. In addition, *dermal insufficiency* is an invariable accompaniment of arterio-sclerosis.

Sub-oxidation with the coincident urinary features of oxaluria, lithuria and phosphaturia, certainly bears a constant relationship to arterio-sclerosis.

The retention of carbonic acid in the system, usually associated with dermal insufficiency—producing the entity called *Carbon-acidemia*, is also instrumental in the pathology of arterio-sclerosis.

In the writer's observation the popular conception of usually associating arterio-sclerosis with old age has been shown faulty in a

number of cases—the records show a series of patients under forty. Two members of this society about forty years of age with whose lesions the writer was acquainted had a systolic pressure of 220 and 240 c.m. respectively.

With this etiological review before us, the treatment adopted in this lesion will, no doubt, be more readily approved of:

I.—Hygienically, including prophylaxis.

II.—By the use of physical agents.

III.—By drug therapeutics.

I. As overeating and overindulgences in alcohol and tobacco are known factors in the production of arterio-sclerosis it is essential to write out in detail the daily diet and comportment of the patients.

The diet recommended in *sub-oxidation* and *carbonacidemia* is practically duplicated in arterio-sclerosis with the additional injunction of avoiding liquids with meals.

Breakfast: Fruit, cereals or toast; or fruit, eggs and toast; sour milk; clabbered milk with dry bread; fromage de Brie and toast.

Lunch: Cereal and fruit; eggs with green vegetables, especially lettuce or water cress; nuts and fruit.

Dinner: Meat or fish; oysters or clams, always with an abundance of green vegetables; nuts and fruit for dessert.

Fruit may also be eaten between meals.

Sour milk, one pint at 3-4 P. M. There is apparent unanimity of opinion as to the value of sour milk products in cases of toxemia and its value as a food for the improvement of intestinal bacterial flora is undoubted.

A careful selection of the fruit diet, particularly adapted to each patient is of unquestioned benefit in all these cases, as alkalinity of the blood is increased, sub-oxidation combatted and hepatic activity stimulated through its employment.

The advisability of *fasting*, especially where diseases of nutrition complicate or accompany arterio-sclerosis, must be considered in each case.

Rest and relaxation, if only for a few minutes after meals, is of much importance and should be prescribed in all cases.

Coffee, tea, chocolate and cocoa are prohibited, or, if same must be indulged in, should be taken well diluted, preferably some time before meals or after meals, not with meals.

Smoking in excess is prohibited; in old cases of arterio-sclerosis smoking in moderation appears to lower arterial tension and is indulged in with benefit.

Air baths, particularly in season, are beneficial in stimulating dermal function and can be combined with hydrotherapy.

Open air exercise, especially walking in moderation, some time after meals, is recommended; carriage riding, swimming and calisthenics, if indulged in gently and regularly, assist in the cure. Rooms must always be well ventilated.

The bowels must be regulated and this important function kept normal; if necessary enemata and physical agents must be employed if the remedy does not act.

Excesses of all kinds must be avoided. These include unusual mental exertion, sexual over-indulgences, the stress and strain of professional, family or business life—all *these* must be modified as well as they may, less tension secured and a philosophic attitude in regard to all events cultivated.

The wearing of *mesh underwear* so as to permit proper aeration of the skin and avoid chilling of the skin is also an important hygienic aid to combat *dermal insufficiency*.

Kidney lesions, especially chronic interstitial nephritis, cirrhosis of the liver, diabetes, obesity, gout, asthma, chronic rheumatic complaints, including lithuria, oxaluria, phosphaturia, syphilis, prostatitis, especially if associated with enlarged prostate, chronic toxemias of all kinds, *all* tend to increase blood pressure and are thus a causative factor in arterio-sclerosis.

This recital of lesions is repeated to emphasize the fact that individualization and removal of the cause whenever possible must accompany all treatments of arterio-fibrosis. The difficulty of selecting antidotal or curative remedies in arterio-sclerosis is also manifest, excepting by strict individualization and study of each case.

II. *Physical Therapeutics.*

The skin, in the great majority of cases of arterio-sclerosis, has lost its excretory function—it is anæmic, dry and hard and perspiration is often absent. The lack of function of the skin throws more work upon the kidneys and usually intensifies any lesion present in these or other viscera.

To restore dermal function the following measures are advocated:

Daily full bath of 95°-98°, or 100° F. in elderly people, for ten minutes, followed by the cold, moist rub-down or shower; or a hot shower for five minutes, followed by a cold shower of one-half minute, may be substituted when vertigo is marked.

Hot sponging followed by a quick, cold mitten rub will also serve the same therapeutic purpose as the above.

The electric light bath given until moderate diaphoresis is secured, followed by a warm shower and finished with a *cold shower* of a *few seconds'* duration, are also efficient measures.

The alternation of hot applications followed by brief, cold, reactive measures, exercises the musculature and the muscular coat of the blood vessels becomes invigorated, so much so that *reaction* is soon established in many cases. In severe cases of *dermal insufficiency* the hot pack (given with due precautions), followed by the cold shower or rub-down, may be given twice a week in addition to above.

Whenever cerebral or cerebellar symptoms (headaches, vertigo, etc.) are marked and sexual symptoms are present the use of hot sitz baths for fifteen minutes twice a day, followed by a cold rub-down, will relieve many of the symptoms of congestion through reflex action.

It is well to emphasize that cold bathing is detrimental and the "cold tub" in the morning must be dispensed with in favor of the measures mentioned above.

In addition to these hydrotherapeutic aids, the D'Arsonval *high frequency auto-condensation currents* have been advocated in hypertension. The writer has tested this method in a number of cases and employs it in every ambulant case. The treatment is given on a couch with the patient recumbent and relaxed, the bi-manual electrode placed in the hands or over the solar plexus region and a dosage of 400 M. A. given for fifteen to twenty minutes. Treatment is given every day at first; as improvement manifests itself the treatment is given every other day or semi-weekly.

Studies made with the manometer show that these high frequency applications, if correctly applied, reduce blood pressure from ten to twenty points after a few treatments, and if combined with hydrotherapy also produce marked circulatory improvement. In some cases this improvement is merely transitory, but in the majority of patients the blood pressure has remained reduced per-

manently after a series of treatments extending from one to two months. In several cases under observation, severe epistaxis, which appears to act as a safety valve in some patients, invariably lowered blood pressure; one case of uterine, one of renal hæmorrhage, one of retinal and nasal hæmorrhage combined and several of cerebral hæmorrhage also showed improvement in hypertension, so that the observation of Osler that abstraction of twenty ounces of blood acts as a beneficial measure in some cases, seems to be corroborated.

III. *Drug Therapeutics.*

The diversity of symptoms and complications encountered in the lesion makes the problem of drug therapeutics one of fitting the *remedy to the patient*. Remedies which have a pathological relationship to arterio-sclerosis may be considered; these are plumbum, plumbum, iodid., vanadium, and, lastly, radium bromid., of the latter particularly a few observations may be of value. The action of radium salts upon the blood vessels if sufficiently prolonged is to cause atheroma and obliterating endarteritis, and based on this proving, a potency of this remedy should prove beneficial in arterio-sclerosis.

The fact that the baths and Springs of Gastein are noted for their beneficial action in arterial tension and that radium has been found in very small amounts in its waters would seem to justify this clinical suggestion.

As palliative for symptoms of *high tension*, lachesis, glonoin, amyl nitrite and aconite, especially aconitum ferox, have proven serviceable.

1748 Broadway.

THE HOMŒOPATHIC TREATMENT OF SYPHILIS.*

By Joseph Hasbrouck, M. D., Dobbs Ferry, N. Y.

In a discussion at the Homœopathic Medical Society of the State of New York in February last, when I heard a distinguished physician announce that he would not dare to treat a case of syphilis without using mercurial inunctions, I made up my mind that I was a back number.

Hahnemann, Jahr, Dunham, Hering, Fincke, Guernsey and a host

*Read at the New York Homœopathic Materia Medica Society, March, 1911.

of others, who adhered strictly to internal medication and whose successes are recorded in our classics, belonged in the same class. Syphilis prevailed in their time, and it being so well marked a disease, we must believe that these giants in diagnosis and treatment did not make a mistake in the former.

It is well sometimes to refer to back numbers in literature and science if it is only to learn that modernists do not know all that is to be learned, and back numbers which set forth the truth often are highly prized. The truth is never a back number.

Syphilis is as amenable to our law of cure as any other disease, and it is well to bear in mind that the re-establishment of the health of the patient is more important than the slaughter of any number of microbes. I am firmly convinced that the intelligent application of our law of cure is sufficient for all curable cases and in greater proportion than any method dependent on laboratory tests.

Surgical and mechanical procedures are undoubtedly necessary to remove many of the effects or end products of the disease.

The nodule and subsequent pock are nature's resistance to the infection, and my theory is to assist the system from within its economy by proper medication to throw off the infection at the point of entrance, and not to seal it up by the use of escharotics. It is not proven that the spirochetæ pallida are the cause of this infection any more than that tubercular bacilli are the cause of consumption or plasmodium malarie the cause of malarial fever. These microbes are the result and not the cause, they are nature's scavengers, and the infection would be more virulent and the effects more disastrous if they did not appear. Their effect is salutary, and they will leave the habitation when they have no meat to feed upon.

But whatever be the *theory* the *facts* remain the same, "that patients can be cured more quickly, more pleasantly and more effectually by the internal administration of drugs, which, in healthy men, produce conditions which are similar if given in doses that are not toxic."

I am satisfied also that if the primary infection is thus treated we will not have the tertiary condition to eradicate. I shall now give just one marked and unmistakable case of tertiary syphilis thus treated and leave you to judge of its success.

I have treated many cases of the primary infection and have yet to know of secondary or tertiary manifestation to appear.

A TERTIARY CASE.

On February 5, 1909, I was called to prescribe for a paper hanger suffering with dysuria, voiding often small quantities with intense burning. I gave *cantharis* 30th, and the next day he was much better. He voided larger quantities and with but slight burning. February 11th was called again and then examined his penis, found it œdematous and purple with congestion. The meatus was free; the sensations were burning and cutting, but not from the effect of urine. I gave *rhux tox.*, and the next day the œdema was much less. I was able to raise the foreskin and found a good sized, well-defined ragged ulcer exuding pus. Prescription, *sabina* with some benefit. On the 21st he complained of anus burning and smarting and very moist; on examination, I found a ring of condylomata around the anus, on the testicles and on the inner side of the thighs, under the lobe of each ear and in the border of the hair; exudations corrosive; in fact, his anus, thighs and testicles were covered constantly with a sticky exudation. If he washed with water the burning was increased, oil was a little better, but the normal salt solution was the best.

He was a married man with grown up children, but I told him he had syphilis, and asked him how long since he was infected; he did not know how it could be, and rehearsed the old chestnut about the water closet, but he had had it three months and had probably had treatment.

Prescribed *cinnabaris* till March 31st, except for three days, when I gave *phytolacca* on account of pain and contraction from hip down and lumps on his shins. *Syphilinum* 200 was given intercurrently once in three days. His condition was so much improved that he was able to be about the house and take short walks. April 1st *nitric acid* 3d five drops, twice a day. Under it continued improvement, and in a month went back to work. I then saw him only occasionally on Sunday. On examining his mouth and throat they were fringed with shreds of detached mucous membrane; prescribed *aurum muriaticum natrum* 3x, one grain tablet three times a day. In three weeks the mouth was smooth and clean. Since July 1st he has not developed any trace of infection, which will be two years next July, and he has not a scar.

In February, 1909, his wife complained of piles. On examination

I found a rim of condylomata about the anus and a few on the inside of the thighs. Prescribed cinnabaris, which cured the case without a change of remedy. No local application was used except the salt solution; the under clothing was burned regularly.

In conclusion, I will say in the words of Constantine Hering: "If our school ever gives up the strict inductive method of Hahnemann, it is lost and deserves to be mentioned only as a caricature in the history of medicine."

[Discussion of Dr. Hasbrouck's paper will be found in the report of the meeting of the *Materia Medica Society*, on page 512.—
EDITOR.]

EDITORIAL

COMMENCEMENT 1911.

Don't forget Commencement 1911.

May 31st the Commencement exercises will be held.

June 1st is Alumni Day. It is expected that each of the quinquennial classes, 1861, 1866, 1871, 1876, 1881, will hold special reunions. It is known that each of the quinquennial classes, 1886, 1891, 1896, 1901, 1906, will have reunions.

And, of course, 1911 will be the center of attraction.

Dr. William Lathrop Love, '94, will be toastmaster, and Dr. F. E. W. Hopke, '99, will have charge of the music. A most delightful entertainment will be provided by each.

The speakers include Dr. George W. McDowell, '86, president of the Alumni Association; Hon. Melbert B. Cary, president of the Board of Trustees; Dean Royal S. Copeland, Judge Crane, of Brooklyn; Rev. Dr. Carson, of Brooklyn; Ex-Congressman Pugsley, of Westchester; Comptroller Wm. A. Prendergast.

The music will include a string quartette and a male quartette of singers.

There will be the usual clinics at the college on the morning of Alumni Day. Luncheon will be served at one o'clock. The business meeting of the Alumni Association will follow at 2:30.

Many improvements have been made during the past year, and it is hoped every alumnus will come and inspect them.

This commencement marks the close of the first year of the second half century in the history of the college. It has been a banner year. Every living graduate of the first fifty years should come and welcome those of the second.

WORK AT THE FLOWER HOSPITAL FOR THE MONTH OF MARCH, 1911.

Number of ambulance calls	547
Number of patients treated in the emergency room	211
Number of surgical cases admitted to the hospital	166
Number of medical cases admitted	87
Number of maternity cases	9
Number of cases treated in the out-patient department	2,889

BROOKLYN NOTES.

Drs. John L. Moffat, '77; Herbert C. Allen, '96, and D. DuBois Ingalls have been ill with "grippe."

Drs. Fred. R. Meeks, '07, and Chas. E. Harvey, '07, have been appointed physicians to the E. D. Homœopathic Dispensary, from which Dr. Robert L. Wood, '04, has resigned.

Dr. Chas. E. Harvey, '07, has been appointed associate physician to the Brooklyn Home for Consumptives.

The death of Dr. Willard W. Ruggles, '08, at Brewster, N. Y., of typhoid, aroused the sorrow of his many friends here.

Dr. John B. Given (Hahnemann, Philadelphia, '90) is recovering from a severe attack of influenza.

Dr. William Morris Butler recently had a finger severely lacerated by the bite of a pet dog. No complications appeared, and the wound has nearly healed.

Caesarean section at full term was performed on a thirteen-year-old Italian girl at Cumberland Street on March 18th. In a recent celiotomy a pus tube was removed from a case, and a tubal pregnancy from the other side.

The managers of the Brooklyn Nursery and Infants' Hospital recently established a six months' course of training for children's nurses, instruction being given by the visiting staff. The students serve in the graduation building, nursery and hospital. The full class of six was graduated on March 18th, and it is proposed to increase the class, beginning in April, to twelve. All the graduates have already secured positions.

ALUMNI NOTES.

Dr. William Tod Helmuth, of New York City, Professor of Surgery in Alma Mater, and a graduate of the class of '87, has been appointed honorary vice-president of the International Congress of Homœopathy to be held in London this summer.

Dr. J. P. Rand, '83, of Worcester, Mass., who has served upon the consulting board of physicians and surgeons to the Westborough State Hospital for the Insane for the last sixteen years, has recently been appointed for another five-year term of service.

The marriage of Miss **M. L. Stanton** and Dr. **W. F. Jacobs**, of New York, is announced.

Dr. Elizabeth Wiltshire Wright desires to announce the opening of her office at 146 Elliott avenue, Yonkers, New York. General practice; anæsthesia. Office hours, 11 A. M. to 1 P. M., 5 P. M. to 6 P. M.; Sundays and evenings by appointment. Telephone, Yonkers 3265.

Dr. Haskell S. Phelps, formerly 328 West 34th street, announces the removal of his office and residence to 114 West 13th street. Office hours, 8 to 10 A. M., 5 to 6 P. M.; Sundays, 9 to 10 A. M. Telephone, Chelsea 2238.

G. Carleton Dominick, M. D., The Devon, 70 West 55th street. Hours, 10 A. M. to 12 M., 5:30 to 6:30 P. M.; Sundays, 10 A. M. to 12 M. only. Telephone, 4580 Plaza, New York. Dr. Dominick desires to announce that he is now connected with the Department of Physical Therapeutics at the Flower Hospital, and is prepared to treat private patients at his office with electricity in the form of high frequency, auto-condensation and conduction, Oudin and D'Arsonval currents with vacuum electrodes, fulguration, thermo-penetration, effluve, galvanism and Faradism, radiant light treatment with leucodescent lamp and mechanical vibration.

Judson F. Browne, '07, announces the opening of an office at No. 1001 North Goodman street, Rochester, N. Y. Hours until 9 A. M., 1-3 P. M., 7-8 P. M. Telephone, Chase 1943. At 15 Sumner Park, 5-6 P. M. daily, and by appointment. Telephone, Chase 3067-W.

Dr. George W. McDowell, '86, has removed to 40 East 41st street. Telephone, Murray Hill 6950. Diseases of the eye, ear, nose and throat exclusively.

OBITUARY.

Dr. L. T. Botsford, '78, died suddenly at his home in Potsdam, New York, February 8, 1911, aged 58 years. Dr. Botsford was born in Canton, New York. He graduated from St. Lawrence University before taking up the study of medicine. From his graduation at the New York Homœopathic Medical College till his death he practiced in St. Lawrence county. He was at one time health officer of Colton, and served for six years as coroner. Dr. Bots-

ford left a widow, two daughters and one son, now an interne in the Flower Hospital.

Dr. F. P. Sheldon, Ann Arbor, '78, died at his home in New York City, February 18, aged 53 years. Dr. Sheldon was also a graduate of the Ophthalmic Hospital, and had been in practice in this city for the past thirty years. He was a member of the state and county societies.

Stephen T. Birdsall, M. D., Hahnemann Med. College of Pennsylvania, '68; N. Y. H. M. C. and F. H., '68, died at his home in Glens Falls, N. Y., January 27, 1911, from cerebral hæmorrhage, æt. 65. He was the father of Edgar Birdsall, '99.

George W. Seymour, '72, for forty years a practitioner of Westfield, N. Y., died at his home of pneumonia, February 13, 1911, æt. 69.

Jesse W. Buell, '77, attending physician to the Rochester Homœopathic Hospital, died at his home in that city February 17, 1911, æt. 59. The cause of death was pneumonia.

Willard Warren Ruggles, '08, was born on August 13, 1880, the son of Dr. Willard O. and Etta Warren Ruggles, of Boston, Mass. He attended the Boston Latin School. He then prepared for marine engineering in the Nautical School of the State of Massachusetts from 1896 to 1898. During the Spanish War he was commissioned assistant engineer United States Navy, and at the close of the war he joined the Army Transport Service, serving at Manila during the insurrection. He then entered the merchant marine and travelled extensively in foreign seas, and collected a large number of curios. With a consistent purpose before him to make medicine his life work he was preparing himself even then. In 1903 he entered the Boston University Medical School, but in 1904 he matriculated at the New York Homœopathic Medical College, from which he graduated in 1908. In his senior year he served on the staff of the Jamaica Hospital; on graduating he served for one year as interne at the Ophthalmic Hospital, where he did splendid work in special bacteriological research, and subsequently served on the staff of the Metropolitan Hospital. He delivered a series of lectures, both at

the Woman's Medical College and the New York Homœopathic Medical College on Pathology.

He located and began practice in Brewster, N. Y., in May, 1909, succeeding Dr. Newmann. His practice grew, and was distinguished by the whole-hearted friendship of his patients and their warm allegiance. He had recently been appointed health officer of the township. He was a Mason, a member of the Alpha Sigma fraternity, of the Academy of Pathological Science, and of the New York State Society.

He was married on September 13, 1910, to Miss Ruby Dickinson Warner, of Worcester, Mass.

Partly through the strain of his professional work and partly by the physical exposure of his long drives his strength had failed him this winter, and he fell a victim to a local epidemic of typhoid fever. After a brief illness he died on March 7, 1911, from an uncontrollable hæmorrhage, and is buried in Worcester, Mass.

LOUIS RENE KAUFMAN.

Louis De Valois Wilder, M. D., son of Jedediah and Prudence Wells Wilder, was born in Walcott, N. Y., August 6, 1817, and died in New York City, February 5, 1911, at the advanced age of 93 years and 6 months, lacking one day.

His boyhood days were spent on his father's farm, and from there he removed in succession to Clyde, Lyons and Newark, N. Y., where he served in the capacity of a clerk until he was about 25 years of age.

His grandfather, Elijah Wilder, was a pioneer settler of Geneva, N. Y., coming from Greenfield, Mass., where his family were identified with the colonial and revolutionary wars.

Dr. Wilder was a self-made man, earning the money for his college course.

He was graduated from the Geneva Medical College in 1845, and shortly afterward began practice in Geneva, N. Y.

While engaged in his profession he fell a victim to some disease of the eyes, and his allopathic brothers said there was no hope for him, that in a short time he would be hopelessly blind. Not willing to accept their verdict as final he consulted a homœopathic physician, who said that he could effect a cure, and did so. This led Dr. Wilder to investigate the merits of a system of therapeutics which

could cure cases pronounced incurable by the dominant school of medicine, and as a result he entered the Hahnemann Medical College, of Philadelphia, and was graduated with the class of 1855.

He practiced in Geneva until 1858, when he removed to New York, and from that date until a few years ago he was in continuous practice. In 1892 he was supposed to have retired, but had at times prescribed for some of his old patients, his last prescription having been made in 1909.

He was a very careful prescriber, and did not believe in large doses of medicine nor frequent repetition of the dose.

He had a large experience in the treatment of typhoid fever, and I am reliably informed that he never lost a patient afflicted with that malady. This is a record any of us may well envy.

Dr. Wilder was an intimate friend of the late Drs. Gray, Hel-muth and Guernsey.

He was a member of the Homœopathic Medical Society of the County of New York, senior member of the American Institute of Homœopathy, and a life member of the New York Historical Society. He was the oldest homœopathic physician in New York City, and probably in New York State.

In politics he was a Republican, and had voted at every election until the last one, when he was too feeble to go out.

He was a member of the Presbyterian church, but for the past fifteen years had been deeply interested in spiritualism, from which he derived much comfort.

He was twice married. His first wife was Margaret Sherwood, and his second Mary A. Bostwick. He leaves two children, Marshall P. Wilder, the well known humorist, and Miss Jennie C. Wilder, also Mrs. Bostwick, a stepdaughter.

Dr. Wilder had a very strong and pleasing personality, was fond of music, loved little children, and was always deeply interested in the welfare of the young; had a keen sense of humor, and an optimism which was contagious.

Like others who have lived to such an advanced age, he felt very acutely the loneliness which so often is present when all or most of the intimate friends of early life have passed away, and while he had the happy faculty of attracting many, the attachments made late in life have not the same warmth as those made in the spring-time of life, and it is not surprising that at times he felt very much alone.

For the past three years he had made his home with his daughter, where everything was done to make his journey down the western slope of life pleasant, and their loving hands and hearts anticipated his wishes, and his last days proved to be his best, because they were spent with those he had known and loved best.

Miss Wilder expressed to me a deep sense of appreciation of the kindly care and treatment of her father by our Dr. Withington during the past fourteen months.

The funeral services were held in the Campbell Funeral Church, 241 West 23d street, February 7, 1911, and were conducted by the Rev. Dr. Sanford, who spoke with much feeling and tenderness.

The next morning the remains were placed temporarily in a receiving vault in Evergreen cemetery.

In the spring when nature preaches her annual illustrated resurrection sermon they will journey with the body to the home of his childhood, hallowed by so many precious memories, and burial will be made in the village cemetery, there to await the final resurrection of the dead.

His loved ones hope to meet and greet him "when the mists have cleared away."

Such a long and beneficent life has been so full of good works that to mention them all would require volumes.

His many acts of kindness, charity and words of cheer and hope are treasured in the hearts of those who have been the recipients, and they will always hold him in grateful remembrance.

The influence of such a life cannot die.

His enduring monument is in the hearts of many who by his skill, advice, encouragement and optimism have been restored to mental, moral and physical health. Dr. Wilder was held in high esteem by the members of the medical profession, and they will miss his words of wisdom and encouragement.

In conclusion, let me add that Dr. Wilder was a devoted husband, indulgent parent, warm friend, charming companion, able and skillful physician, courteous gentleman, worthy and patriotic citizen, and a sincere and consistent follower of the Great Physician.

CHARLES VER NOOY, M. D.,
Necrologist, Hom. Med. Soc. Co. of N. Y.

SOCIETIES.

AMERICAN INSTITUTE OF HOMŒOPATHY.

Lowell, Mass., March 15, 1911.

Editor CHIRONIAN:

After a conference to-day with Dr. H. A. Whitmarsh, of Providence, the chairman of the Local Committee of Arrangements for the Narragansett Pier meeting of the Institute, we are now able to make the following preliminary announcement of the plans for entertainment of the visitors:

Monday evening, after the welcoming addresses and exercises, there will be a reception followed by a ball.

Tuesday afternoon an excursion by steamer to Newport and probably a ride for the entire party along the famous eight miles of ocean drive.

Thursday a steamer trip to Rocky Point, where the whole party will enjoy a genuine Rhode Island clam bake.

Friday night will come the annual banquet.

The Meissen is arranging for a musical in addition to their usual constant courtesies. The exact date for the above event is not yet placed.

The space for exhibits is selling rapidly, and under the energetic management of Dr. Bennett, of Pawtucket, R. I., promises to be an unusually attractive feature.

The new Mathewson is an ideal place for our meeting, and everything points to an unusually successful event.

Cordially,

G. FORREST MARTIN,
Chairman Press Bureau.

HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The Homœopathic Medical Society of the State of New York held its annual meeting at Albany, February 14th and 15th. The scientific program was exceptionally good, and included addresses by Dr. Alonzo Howard, Boston, Mass.; Dr. DeWitt G. Wilcox, Boston, Mass.; Dr. R. W. White, Scranton, Pa.; Dr. W. S. Magill, Albany,

N. Y., and Dr. George W. Mackenzie, Philadelphia, Pa., guests of the society. In accordance with the announcement of President William H. Hodge, the Bureau of Materia Medica was made a special feature, the chairman, Dr. C. C. Howard, presenting a report of fifteen papers.

An invitation extended by the Homœopathic Medical Society of the County of New York, and endorsed by the Academy of Pathological Science, to hold the semi-annual meeting for 1911 in New York City during the second week in October was accepted with the thanks of the society.

The necrologist, Dr. John L. Moffat, reported the deaths of the following members: S. T. Birdsall, E. S. Coburn, W. E. Delabarre, H. D. Knickerbocker, W. S. Searle, C. W. Schwartz, P. W. Shedd, John F. Wage.

The following members resigned: Chester R. Brown, Louis G. Newman, D. B. Hunt, Amelia Wright.

Nine physicians were elected to regular membership and one to honorary membership. To honorary membership—Henry F. Schantz, M. D., president of the Homœopathic Medical Society of the State of Pennsylvania.

To regular membership: Otis J. Case, M. D., Buffalo, N. Y.; Earl V. Gray, M. D., Collins, N. Y.; Frank E. Lewis, M. D., Albany, N. Y.; G. W. Little, M. D., Glens Falls, N. Y.; E. W. MacAdam, M. D., New York, N. Y.; H. C. Mahnken, M. D., New York, N. Y.; B. D. Mosher, M. D., Granville, N. Y.; H. G. Sloat, M. D., New York, N. Y.; F. M. Smith, M. D., New York, N. Y.

Dr. H. R. Arndt, of San Francisco, and Dr. George W. Mackenzie, of Philadelphia, were nominated for honorary membership.

The following officers were elected to serve for the ensuing year:

OFFICERS FOR 1911-1912.

President, Orando S. Ritch, M. D., Brooklyn, N. Y.

First Vice-President, George R. Critchlow, M. D., Buffalo, N. Y.

Second Vice-President, Marcena S. Ricker, M. D., Rochester, N. Y.

Third Vice-President, George H. Jenkins, M. D., Binghamton, N. Y.

Secretary, Bert B. Clark, M. D., New York City, N. Y.

Treasurer, Reeve B. Howland, M. D., Elmira, N. Y.

Necrologist, John L. Moffat, M. D., Brooklyn, N. Y.

Counsel, Edwin Van Wormer, Esq., Albany, N. Y.

Censors, R. C. Woodman, M. D., Middletown, N. Y.; W. S. Garnsey, M. D., Gloversville, N. Y.; A. C. Calisch, M. D., Oswego, N. Y.; Otis W. Wiley, M. D., Syracuse, N. Y.

To fill vacancies, John F. Ranken, M. D., Brooklyn, N. Y.; Glen I. Bidwell, M. D., Rochester, N. Y.

B. B. CLARK,
Secretary.

NEW JERSEY HOMŒOPATHIC MEDICAL SOCIETY.

The New Jersey Homœopathic Medical Society will hold its annual meeting on May 24-26, 1911, at Monomnock Inn, Caldwell, New Jersey.

NEW YORK HOMŒOPATHIC MATERIA MEDICA SOCIETY.

The regular March meeting of the New York Homœopathic Materia Medica Society was held on the 22d at the home of Dr. Coleman.

Dr. Joseph Hasbrouck read a paper on the "Homœopathic Treatment of Syphilis." (Published elsewhere in the CHIRONIAN.)

Dr. Ball discussed the origin and theory of 606. The thought and effort of the dominant medical school are not directed toward any scientific law or fixed rules for prescribing, but they are still searching for specifics, for the one remedy which will cure a given disease in all its manifestations in every individual. Ehrlich believes that all drugs and chemicals have each a selective affinity for some specific tissue in the body. He chose arsenic as having an affinity for tissues similar to those which are attacked by the poison of syphilis. 606 is simply the number of that particular arsenic composed in his series of experiments, which seemed to have the desired action. There has as yet been too little experience with it to draw very definite conclusions.

Dr. Ball's personal experience has led him to believe that homœopathic prescribing has given far better results in the long run than the old mercury treatment. He has noted some cases of apparent immunity from syphilitic infection. In two cases mothers have given birth to syphilitic children without themselves showing any signs of the disease. In one case a second pregnancy by a non-

syphilitic father produced a perfectly healthy child. It would seem that either the mother had made a spontaneous recovery from some slight infection or was for some reason immune. [This is a well recognized rule, and is known as Colles' Law.—EDITOR.]

Dr. Copeland read a paper on the "Ocular Manifestation of Syphilis."

In the general discussion Dr. McKnight reported results from kali mur. 200 and 3x in interstitial keratitis with the belief that the proper remedy will cure eye diseases irrespective of the underlying condition.

Dr. Stearns: It is refreshing to hear a decided stand taken in the matter of homœopathic prescribing in syphilis. There has been too great a tendency among us to follow after the new and much heralded discoveries of the old school, forgetting that which has been many times proven in our own. He has never had reason to regret his homœopathic prescriptions in these cases. The end products of the disease are always hard to treat. Tertiary conditions frequently require massive doses of the indicated remedy.

Dr. Ball: Cases which have failed to respond to mercurial and mixed treatment frequently clear up under careful prescribing. One case presenting an iritis as one of several secondary symptoms was treated with biniodide of mercury in homœopathic potency, and the entire condition was removed.

Dr. Ball has been interested in the sociological and historical aspect of syphilis, and believes Moses was the first and perhaps the only ruler who has successfully solved the social problem when he slew thousands of the neighboring tribes who had tempted the Israelites from the paths of virtue.

Dr. Seward: Homœopaths need a little more moral stiffening. We have heard so much of mercurial treatment and so little of scientific prescribing that it takes courage to stick to our law in such serious conditions.

Dr. B. G. Clark: Treats all of his cases with strictly potentized remedies. Aurum 30 and hepar. 30 have given splendid results in tertiary conditions.

Dr. House: Syphilinum is the mainstay in tertiary lesions. When no other remedy is clearly indicated syph. 200 will often bring the case out distinctly, and frequently clear up the whole thing.

Dr. Mills: Has been able to follow one case treated homœopathic-

ally throughout for a period of ten years. The man is now married and has a healthy wife and family.

Dr. Lehman: Cases coming from old school mercurial treatment must have the effects of the mercury antidoted before they respond properly to the indicated remedy.

Dr. Coleman: There is authority in homœopathic literature for rejecting mercury entirely in the treatment of syphilis. This is wrong. In the first and third stages mercury is seldom indicated, but the provings show a remarkable similarity to the secondary manifestation.

Mercury cures many cases during that period, and those cures are homœopathic cures whether given by inunction, injection or in the potentized form. The dosage and manner of administration is a secondary matter if the drug is indicated according to the homœopathic law.

Dr. Hasbrouck: Too much stress is laid upon the spirochaeta. The germ is there because the disease is there. Another twenty years will see a complete revolution in our attitude towards the germ theory. Treat the patient and never mind the disease or the bug. The proper homœopathic remedy cures the patient whether he has syphilis or the bellyache. Stick to homœopathy of the old fashioned type. No better means of cure has yet been discovered.

Dr. Copeland: The apparent limitations of the homœopathic law in the treatment of the end products of such diseases as syphilis are not to be placed against the law but rather accounted for by the necessarily imperfect and incomplete provings of our drugs. It is not always possible to carry provings to their final conclusions. Our drugs have not been proven on all types of people and upon children and old people.

C. G. WEBSTER, M. D.,
Secretary.